Textile industries
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NOVEMBER, 1930

# COTTON

THE TEXTILE MANUFACTURING JOURNAL

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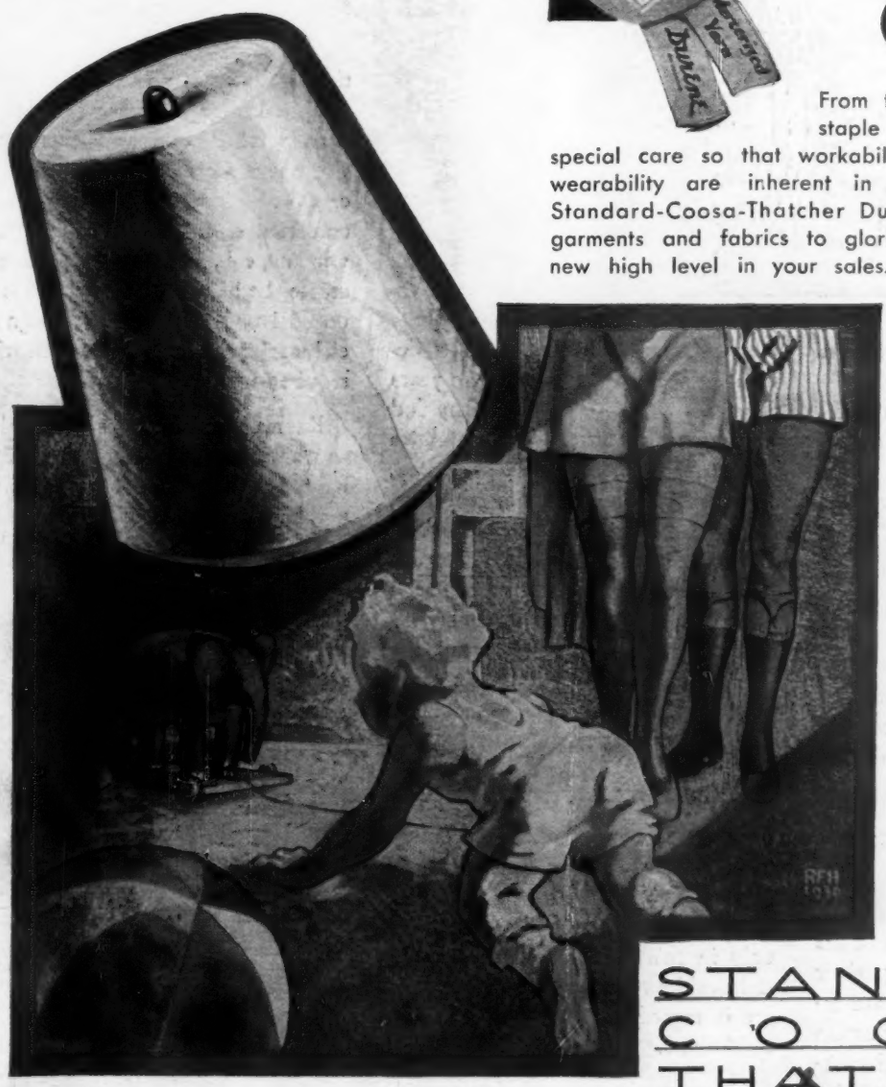

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COTTON

Vol. 95 November, 1930 No. 1

# *The* Mill Executive's Position

## *Hold Cost Uniform with a Fluctuating Production, is the Operating Man's Job; Consolidations Seen as Hope of Smaller Units*

**By George S. Harris**

*Those responsible for securing Mr. Harris to speak at the Southern Textile Association in Greenville last month deserve the thanks of all operating executives. He delivered the accompanying discussion of present-day conditions; giving the operating man a slant from the executive's point of view, as well as indicating clearly to them their responsibility in these "reconstruction days," as he calls them.*

LOOKING BACKWARDS we find many very valuable developments in our equipment and methods during the past ten years contributing not only to the quality produced in our southern mills, but to the earning power of our labor. In fact we are fast approaching the time when mills on the lower level as to equipment and management must go by the boards. Stated in another way, we have reached the point when a southern cotton mill may be junked. Such a thing has seldom happened in our history. Mills have run on the rocks and capital structures have crumbled, but the physical property stood still until new capital took control and the old wheels continued under new ownership. I say now due very largely to your progressive thought and action, some of these old mills are doomed and the sooner they reach the junk pile the better it will be for the industry as a whole. This statement will apply more especially to some of the smaller units originally organized for the sole purpose of "having a cotton mill in somebody's town." Developments during the past five years demonstrate beyond doubt that this type of mill cannot support the necessary talent to carry on under present day competition and must either give up the struggle or become attached to a larger unit or to a group of mills. In this way only can a small unit expect to enjoy at a reasonable cost the same advantages of technical and merchandising talent found in the larger organization.

Under present day world competition in cotton textiles more intelligent merchandising and management methods are necessary than ever before and we may expect this to become more important as we move forward. Every expense item must be reduced to the irreducible minimum. Administration units must be spread over more production for the purpose of better control and lower management cost. The future seems to demand consolidation of the stronger mills and merchandising houses into units put together according to their fitness for handling production by groups and also the complete elimination of the weaker organizations. Only through such consolidations can the smaller mill hope to enjoy the advantage of technical and merchandising talent at a reasonable cost.

Mr. HARRIS.

One of our leading merchants at the Pinehurst meeting referred to our child like belief in Santa Claus, but like children in time we must become disillusioned as to this old tradition and when this is behind us we will all be happier.

Realizing the terrific strain under which you have been working during the past twelve months, it occurs to me that you may be asking of me what is the matter. Many speakers and press writers have tried to answer that time worn question—what is the matter with the textile industry? until we all are quite fed up on it. I believe the industry has been seriously hurt by so much publicity on this question. Nevertheless, it seems appropriate and timely for me to give you a few thoughts on this point at this time. First—I would caution you to maintain your composure and courage. Think carefully through every move before you operate, realizing that you are coping with a condition which, while new to all of us, is perfectly natural and comes to all major industries sooner or later.

Beginning in the 90's and continuing through 1920 our southern textile industry grew rapidly and with the exception of certain periods of depression we had a comparatively easy time. Our competition was in other sections of this country or abroad. For the past decade we have been working under very different conditions. Our competition is among ourselves. With the in-

crease in spindles plus your efficiency and most important of all plus your ability to operate efficiently at night, we are choking ourselves to death. It should be perfectly obvious to anyone that sooner or later every industry grows to that stage when it must solve the problems of excess capacity. We have very definitely reached that stage. In fact we were in that stage several years ago, but not until now would all admit it. Our success from this time forward is in direct proportion to our degree of organization and the willingness of each individual operator to think in terms of his industry rather than his individual interest.

In a nut-shell we are trying to learn to control surplus production and in the process have thrown back on you and your labor burdens you have never carried before. In this I am willing to admit that your chief executives while appearing individually to thoroughly understand the problems involved, have failed collectively to show the courage necessary to make corrections before the damage is done. In justice to these men let it be said that their problems are much greater than they might appear to be on the surface. In our wisdom in this great democratic government we have saddled ourselves with laws whose purpose was to protect open competition and which very forcefully prohibit any move on the part of two or more producers which tends to a so-called combination in restraint of trade. As law abiding citizens of this great country we love so well, the chief executives of southern cotton mills have leaned backwards in their effort to abide strictly to the letter of these laws. It is true that recent rulings appear to make a more liberal interpretation of the principles involved, but these rulings are often couched in such technical phraseology as to only bewilder the layman into even more caution.

### The Part of the Operating Executive.

Then again in our rapid growth we have developed an industry badly scattered from Virginia to Texas composed of great numbers of comparatively small units making it most difficult to weld the whole into one great efficient working unit. This isolation makes mutual understanding of mutual problems practically impossible which necessitates unnecessary suffering on the part of capital, management and labor. We find both in our markets and in the mill office a general knowledge of our common problems but an utter lack of any sympathy for our competitors. Individually we yet prefer to fight it out in a price war that no one can ever hope to win. This is a condition that time will cure with the able assistance of such agencies as the Cotton Textile Institute and our various associations including the Southern Textile Association. In fact we have every evidence that certain fundamental weaknesses in this industry have been recognized by the Department of Commerce at Washington and steps have been taken to assist in making necessary corrections.

Now the question before you is, what are you going to do about it? What part will you play in this great game? You have a most important part. I am willing to say that you are the foundation of the whole structure and our success depends to a very great degree on how you conduct yourselves during these most difficult reconstruction days. Reconstruction days is certainly what this all means. In my opinion when this industry is finally placed on a sound basis we will not recognize the general set up as compared with what we see today. We are apt to find both men and plants considered good today entirely out of the picture then. Both men and equipment must be continually subjected to tests we have never known in the past and when either is found lacking the necessary efficiency to meet conditions must and will be set aside for better models.

Speaking to you collectively as an important department of management, I say that you have today a most unusual responsibility. I say to you individually, that unless you are applying yourself 100 per cent to your problems you may expect sooner or later to be junked along with the antiquated equipment some mills are attempting to operate. In addition to the task of leading your labor against adverse influences you are forced to continually find ways and means of reducing your unit cost and improving the quality of your product. You have learned to think in such terms as loom stops per day, ends down per thousand per hour, and others that are commonplace now, but were not considered of importance ten to twelve years ago. Through improved methods you have materially increased the output per operative and per spindle and more important of all, you are learning better methods of cost findings and cost control. I might say that your improved efficiency has played a large part in our undoing in that you have learned to operate efficiently at night as well as day. This has given us a surplus production very difficult to handle.

On the other hand, this is not a charge I can lay to you, but must charge your chief executives for not having found a way to handle their common problems. Night production has a place in the picture, but should be used only when there is a market place for it. Constant maximum production has no place in any industry, and when we attempt it we must expect to pay dearly for violating a fundamental law of economics. We are learning this and during the past year have paid a terrific price to old Professor Experience. It is up to you, our operating executives, to learn to fluctuate your production, and while doing so maintain as nearly as possible, a uniform cost. No one realizes the problems involved any more than I do, and you have my fullest sympathy, but nevertheless, this is your big job, and you must meet it courageously.

We cannot forget that one of the first lessons we learned is that the easiest way to reduce cost is to increase production. This principle has been overworked during recent years when margins tightened. We continued to increase production to reduce cost, but seemed to be amazed to find that this surplus production reduced our margins faster than any one could reduce cost. We are forced now to find means

(*Continued on page* 71.)

# THE TREND OF THE TIMES

By DAVID LAWRENCE

*Published in the Textile Industry*
*Only by Cotton*

NEARLY a year has passed since the stock market crash. What have business men learned in the interim? First, that the disturbance was no superficial squall, but a fundamental readjustment of currents and tides; second, that the way back to equilibrium lies in the restoration, if not the reorganization, of basic things like the agricultural and automotive industries.

Assuming that every business depression has its psychological factors which retard a return to normal, there are two things which stand out as having slowed down the wheels of progress. One is the diminished purchasing power of the masses, due to unemployment on the part of millions of our citizens; and, second, the failure of production and consumption to maintain a balanced relationship to each other.

Business men everywhere recognize now that efficiency never was more compelling and that the difference between essential and non-essential services in America is becoming more and more pronounced every day. To put it another way, the costs of doing business, the costs of production, the costs of selling, the costs of planning and the costs of distribution and, lastly, the costs of management, as a whole, now are undergoing minute scrutiny.

One of the biggest items in the cost of doing business in America today has been the cost of money. Credit operations are not only the cornerstone of expansion but the very backbone of every-day transactions. Installment buying has proved economically sound throughout the present depression. The big financial turnover of our large corporations has been made possible by popular ownership of securities. Progressive capital operations are feasible when the Federal Reserve System keeps currency flexible and money at work, thus permitting America to finance itself at the lowest rates of interest in generations.

Readjustment takes time. Early in 1930 bankers did not buy bonds because they still had their eyes on the call money market or because they felt the bond market would drop again and leave them with losses on their investments. Now, toward the end of 1930, bankers wish they had bought bonds earlier in the year so as to have maintained a better average throughout the year for their idle funds. With the return of the bond market, money is put in circulation once more, not only in the companies that need extra capital for efficient operation, but with those who desire to refinance old loans at lower rates of interest—again cutting down the cost of money.

Next comes the cost of selling. Wasteful methods are not discerned in times of prosperity. In an era of economy, selling becomes efficient. The motor industry, for example, has waited for the prospect to come to the show window—the work of the individual salesman has never been extensively developed. And, yet, what product selling at a unit of more than fifty dollars depends upon the prospect to come to the store? Ways,

for instance, of finding out the mechanical inadequacy of old cars and other scientific methods of getting a line on the replacement market suggest the selling job that the motor industry has to do.

And so it is with agriculture. We are going through a process of reorganization to determine a method of orderly marketing. We may not like what the Farm Board is doing, but out of its experiments will come a plan to put agriculture on a better basis. The solution is not just around the corner—it takes time. When consumption and production have been balanced with respect to agriculture, the raw products and by-products that are bought in the agricultural States will move more evenly to that market. There is no practical formula for regaining prosperity except by restoring the health of all the big units in American life, which, summed up, constitute its composite purchasing power.

Government can do many things to assist in the process of recuperation, but it can not prescribe the primary remedy. That comes from within—from reorganization and readjustment. The Government is aiding in many ways. It is trying to put money to work through the Federal Reserve System. It is encouraging the distribution of capital to enable the farmer to finance himself over bad years. It is not going to increase taxation. The corporation tax in effect at present will not be raised. The Federal Government could even have a slight deficit without raising taxes, for all that is necessary is an amendment to the law with respect to the sinking fund on war debts. This provides a cushion. The United States is far ahead of schedule in sinking-fund payments on the public debt, and it could eliminate the $250,000,000 fund in a bad year without disturbing credit in Government securities.

Taxation, however, is not entirely a Federal problem. Forty legislatures will meet next Winter; nineteen States have income tax laws already; twelve others are considering them. In many instances where the power to levy income taxes has already been prescribed by State constitutions, there is much discussion as to how the burden shall be distributed. Real estate is clamoring for relief. More taxes for corporations and businesses, particularly the large units, is the suggested alternative. Trade associations are on the alert in opposition to new burdens.

The horizon of business has some clouds on it, but at the end of more than a year of depression, there is no doubt that the facts of the problem are clearly outlined. This means that the challenge to all business, large and small, to organize efficiently for continued profit has been indelibly written in the management counsels of the nation. And when the major businesses have translated present plans into action—some time in the next twelve months, the beginning of a new period of economic balance will come. And out of it will emerge not necessarily an unprecedented expansion but an efficient prosperity.

# Textile Week *in* Greenville

REFLECTING the accumulated progress in textile equipment and supplies, more particularly of the last two years, the Ninth Southern Textile Exposition, held at Textile Hall in Greenville, S. C., during the week of October 20th, was a worthy successor to the eight previous shows.

With the Show as a nucleus, the entire week was filled with related events which made the event truly the Mecca of textile interests of the South and the nation. Meetings of the Southern Textile Association, the textile division of the American Society of Mechanical Engineers, a group meeting of finishers, and a discussion meeting of mill executives were among the related features of the week.

From the standpoint of the exhibitors at the show —the largest number on record being represented, by the way—the most encouraging aspect was the large attendance of interested mill men who visited the exhibition. In some cases, unusual sales of equipment from the floor of the hall were reported; but in the main, the greatest benefit came from the opportunity to demonstrate new and advanced equipment and ideas. In this connection, a definite atmosphere of a better feeling—and better business conditions—was clearly evident. Many comments were heard as to the appropriateness of the Exposition's being held just at this time, with conditions showing a gradual, but certain improvement, since it offered a medium of contact between the mill men attending, as well as with the exhibitors, for the purpose of clearing the decks for action.

The attendance came from all over the South, including Texas, which sent a representative crowd, and, by all methods of judgment, all previous records of attendance were smashed, and, as indicated, the attendance was very largely of the character for which the exhibits were designed.

Space limitations in this issue prevent detailed description of all of the equipment and materials on exhibition. Generally speaking, it was truly a reflection of progress and development. The absence of several of the larger carding and spinning machinery manufacturers was noted, but was compensated for in a larger number than usual of smaller displays of supplies and related equipment. It has become a policy among some of the larger preparatory and spinning machinery people to exhibit at alternate shows, and it was realized that these firms will be at the Tenth Exposition in 1932 with a full presentation of the developments of four years.

Even so, these phases were not entirely neglected, since long draft spinning, in several different forms, as well as large package spinning, formed the center of attraction for many, and there was also much interest displayed in the newly-developed self-doffing picker which was in operation.

Weaving and finishing equipment formed the basis of the major exhibits on the first floor of the main building. One entirely new model of loom was displayed for the first time, and on established models there were demonstrated many new improvements and refinements.

Warp preparation, as has been the case for several shows, was another center of interest. There were the automatic spooler and high speed warper, high speed winding and high speed warping, the system of high

A View of the First Floor of the Main Building, from the Main Entrance.

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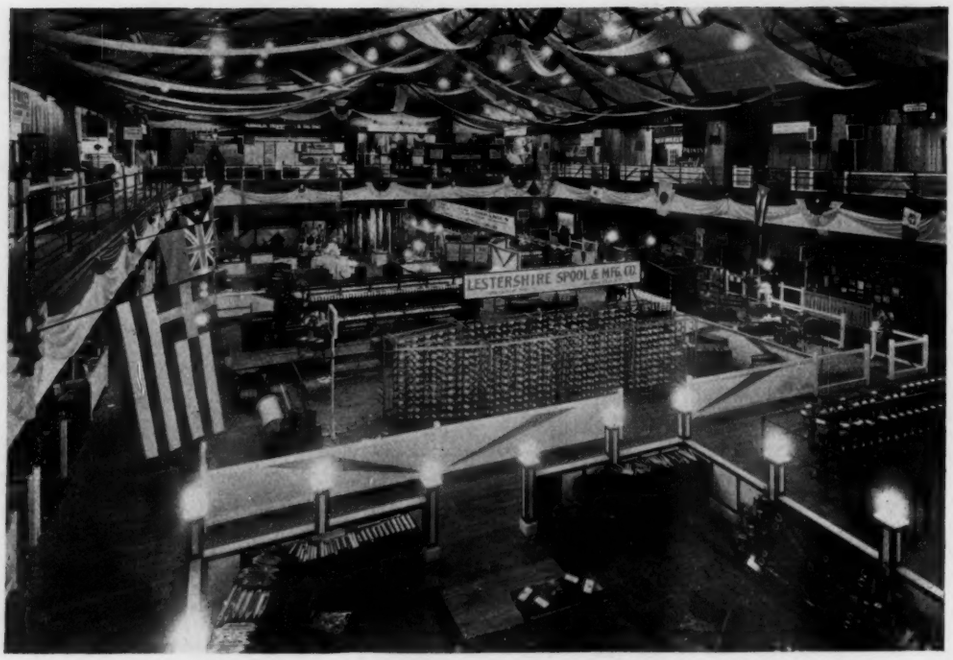


Looking Down at the Second Floor of the Main Building, from the Balcony.

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speed warping over-end from spools; and a newcomer in this group this year was the circulating type of winder whereby the operative remains seated and the spindles revolve around the machine, and which with the others attracted much attention.

An operating exhibit of ball-bearing spindle was another point of special interest. A number of new developments in air conditioning apparatus, some of which have been described in these columns, and some of which will be described later, were in operation also. There were motors, and belting, and drives and control apparatus and electrical and power equipment—in fact, practically the whole category of textile mill equipment and supplies was represented in the various exhibits.

One point commented upon frequently during the Exposition was the increasing importance of rayon and silk, as demonstrated by the several exhibits of rayon companies, and the prominence which these materials held in the operating exhibits of the loom and other equipment manufacturers.

All in all, the Show was an inspiration and an invaluable benefit—a definite marker of progress and advancement in the textile industry.

### A. S. M. E. Meeting.

On Wednesday of Show Week, the textile division of the American Society of Mechanical Engineers held its meeting, where an address on humidification was presented by E. D. Smith, of J. E. Sirrine & Co., and one on the treatment of water for bleaching and dyeing, prepared by C. D. Blackwelder, of the same organization, was read by J. A. McPherson. In the evening, an informal dinner was held by the engineers, where they were addressed by Wm. E. Mitchell, vice-president, Georgia Power Co., and L. W. Wallace of the American Engineering Council. Some interesting high speed motion pictures were shown.

### Southern Textile Meeting.

The climax of the week's program came with the Southern Textile Association's semi-annual convention, held on Friday morning. J. O. Corn, president, was in the chair. To permit as much time as possible for attendance at the Exposition, the meeting was limited to one session, the program of which was very profitable and helpful. C. K. Everett, of The Cotton-Textile Institute, discussed the activities of the Institute in the development of new uses for cotton and the extension of existing uses. George S. Harris, president, Hunter Securities Co., spoke on "The Mill Executive's Position Today." An abstract of Mr. Harris' paper appears on page 1-R of this issue.

Following the session, the annual banquet of the Association was held in the form of a luncheon at 1:00 o'clock, where an entertainment program was provided by a Greenville committee headed by Edwin Howard. Dr. Howard E. Rondthaler, president of Salem College, Winston-Salem, N. C., spoke on the subject, "What Do You See When You See a Cotton Mill?"

Throughout the week, there was a varied program of entertainment for the visitors. On Monday afternoon, the Greenville ladies were hosts to visiting ladies at a tea and garden party at the home of Mrs. A. F. McKissick, which followed a drive in and about the city. The regular Red Cross Cotton Ball, held at the Poinsett Hotel on Wednesday evening, attracted a number of the visitors, and was of especial interest in that during the evening a cotton style show was staged, under the auspices of the Cotton-Textile Institute. On Thursday evening was the Charity Ball, and on Friday evening, the informal dance of the Southern Textile Association, complimentary to members of the Association and exhibitors.

# Cork Rolls *in* Spinning Feature Discussion *at* Charlotte

*Experiences with cork rolls on spinning frames represented the largest part of the discussion reported here, but cleaning spinning frames, making mock twist yarn, warper speeds and other interesting topics were also covered. This is of especial interest to spinners, but superintendents and others will also find much of value in it.*

THE USE of cork-covered rolls in the spinning department, and methods of cleaning machinery in that department, featured the discussion in the meeting held by the spinning division of the Southern Textile Association at the Chamber of Commerce in Charlotte, N. C., on Friday, Sept. 26th.

C. S. Tatum, manager, Consolidated Textile Corporation, Raleigh, N. C., was in charge of the meeting, and led the discussion, acting for Carl R. Harris, who is chairman of the division. It was announced that another spinning division meeting would be held in South Carolina later in the fall in charge of L. P. Duncan, superintendent, Inman Mills, Inman, S. C.

The entire meeting at Charlotte was given over to round-table discussion of the topics mentioned and other pertinent subjects pertaining to spinning room operation. A report of the discussion will be found in the following paragraphs:

### Making Mock Twist Yarn.

In opening the meeting Mr. Tatum announced that the committee had decided to limit the discussion to a few questions and discuss those questions thoroughly. The first one submitted for discussion was, "What is the best way to make mock twist yarn so as to have both colors evenly distributed in the yarn, so that when woven there will be no streaks?"

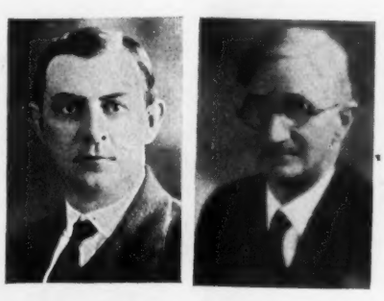
T. W. Harvey of Waxhaw, N. C., was the first to respond, stating that in making mock twist he had found it practical to use a guide made with a division in the center, not allowing the rovings to cross on top. In response to a question from Mr. Tatum he stated that this improved the quality of the yarn to such an extent that his goods which had previously been rejected were accepted.

Mr. Tatum then called upon C. A. Davis of his own plant to discuss the question.

"We have had quite a bit of that trouble," said Mr. Davis. "We were first making 12s yarn out of 2.00-hank roving, double creel, that is with one strand of 2.00-hank black and one strand of 2.00-hank white roving. This black and white roving came through the card room with just two processes, and we were getting all kinds of unevenness in the yarn. I tried separating the roving, but instead of using a double-eye trumpet, I put a wire on the trumpet between the middle and back roll, but after spinning it that way, I could not tell any difference. That did not help the situation any.

"So then I went back to the card room and put it on three processes and made a 3.00-hank roving, which gave one more doubling, and cut the draft on the spinning from 12 to 8." He stated that this practically solved their problem. He added that he had bored out the trumpet so that he would have an extra large hole, instead of putting in two eyes.

"The idea is," added Mr. Tatum, "twist goes to the small places, and in an unevenly twisted yarn, where it was hard-twisted it always looked blacker, and when we got the roving even we did not have that trouble of unevenness. Maybe a double trumpet would help us some too."



Left, Marshall Dilling; right, C. S. Tatum, who led the discussion.

### Rebuilding Old Lever Screws.

"Is it practical to rebuild old lever screws with an acetylene torch?" was the next question asked by Mr. Tatum. He explained that this meant where a mill has screws that are worn; and was an effort to determine whether it was as practical to rebuild them as to buy new ones.

"I had some turned down that way," said J. S. Lockman of Lockhart Mills, Lockhart, S. C., "but I do not think it is practical. It costs more to do it than it costs to get new ones, and you still have an old lever. It is hard to get it smooth where it wears out, and fix it as it should be."

"I rebuilt some screws in two or three different places," said E. B. Brannan, overseer of spinning, Consolidated Textile Corporation, Raleigh, N. C., when called upon, "and I found that I got as good results out of the old ones that were properly fixed up. However, if they are off size, you are just as bad off." He indicated that there was quite a saving, from a money standpoint, in rebuilding the screws if satisfactory results could be secured.

Mr. Tatum next asked what is considered the best speed on old style warpers on 14s and 18s yarn. J. V. McCombs, superintendent, Randolph Mills, Inc., Franklinville, N. C., pointed out that that question covered a world of trouble, and that the warper speed depends to a great extent upon the character of the cotton used. Assuming a Middling Upland, on

J. S. Lockman.

W. C. Johnson.

E. B. Brannan.

14s, he felt that 65 to 75 yards a minute is a good speed. J. O. Edwards, superintendent Rhodhiss Mills Co., Rhodhiss, N. C., reported 60 yards a minute on 15s. Mr. Harvey suggested 60 to 65 yards per minute.

"This question was raised a number of years ago in one of our spinners' meetings," said Marshall Dilling, superintendent, A. M. Smyre Manufacturing Company, Gastonia, N. C. "The man who raised the question asked what it was that caused the beam to become shaped like a cake of Octagon soap, and it was found that this was due to excessive speed. It would begin to vibrate, and the longer the beam ran the more out of shape it got. Most of the beams we have now-a-days are better, and are not as likely to get out of shape." Mr. Tatum said that that was the reason the question was brought up, that he "had been complaining that his warpers were running too fast," but that from the report made it seemed that they were fairly well in line with average practice.

Mr. McCombs asked if anyone had tried using a balance wheel on old style warpers. J. S. Lockman said that he had run one with a balance wheel on it, but did not get any better results. Regarding speed, he said that he had run as high as 80 yards a minute, but that in order to get this high a speed it is certainly necessary to know how to regulate the brake on the warper. He said he had no trouble with octagon-shaped beams.

Mr. Tatum asked if anyone had ever tried using "snubbers" on old style warpers. C. A. Davis stated that at one time they had quite a bit of trouble with octagon-shaped beams on their warpers, which were put up by the factory man to run on a speed of 67 yards a minute. He said that at the same speed a warper running on white yarn would give a smooth beam, while running on a combination of colors, he would get octagon shapes. Mr. Davis then explained that he got some snubbers and put them on one warper, which eliminated the trouble, and cut the speed on the other warper from 67 to 54 yards a minute on the other one. He said he got better results with 54 yards a minute, with less end breakage, and that he got the beams off quicker. He said that he ran the snubbers for quite a while and then one end of the beam began to run higher than the other, which gave him trouble at the slashers, so he took the slubbers off and cut the speed on that machine also. Asked as to why he had the octagon-shaped beams on one warper and not on the other, he said that he did not know what this could be unless it was that the yarn was raw-stock dyed. He stated that he had practically the same number of ends on both warpers.

### Setting the Spooler Guides.

The chairman next asked for a discussion as to the proper setting of spooler guides on 14s and 18s yarns. J. S. Lockman said that, "About the best gauge I know of on the old style spooler guide is to get them as wide open as you can run them." He said that the gouts that come through on the yarn are less detrimental in the cloth than by having the guides so close as to skin the yarn. He said that he always tried to set his old style guides to where they will not skin the yarn. With regard to the McColl type, he said there is some reason for setting them because they pick stuff off the yarn, and they do not have to be set as do the old style guides. Mr. McCombs pointed out that, "When you get the spooler guides down too close, it skins the yarn and the gouts hang on and the yarn goes through." A. B. Brannon, superintendent, Entwistle Manufacturing Company, Rockingham, said that, "I do not care about leaving the guides wide open. You must watch your spooler hand very carefully. My idea is to get the spooler guides set as close as possible and not chafe the yarn, keeping the kink out." He said that he has the weavers' knotter at one mill and the chicken-head knotter at another. He is on print cloths, 30s yarn, with 1300 looms, and he said that for the past year he has been making a very close test on this, running 24 looms for days at a time. He said that he had materially reduced his end stoppage by training the help, and that he does not have much trouble with the slip knots or kink knots. He said his total end breakage ran about 4.9 per loom for 10 hours. He stated that in order to keep lumps and gouts out of the yarn it is necessary to start back in the picker room and follow the cotton on through the mill. He stated that he could get better results with the McColl type of guide.

"What system do you have for setting the guides?" asked Mr. Tatum. Mr. Brannan said that he does this about once a month with a gauge. He replied to Mr. Tatum's further question by stating that he does not have any trouble with the guides opening up; that if a spool should happen to fall down on a guide, it will change the position of the guide but that it will not change the setting, that it would break the guide before it would do this. F. B. Smith, overseer spinning, Inman Mills, stated that he

A. B. Brannon.

F. D. Lockman.

W. W. Splawn.

has found it a good idea to go over the guides often, that on 30s yarn he checks over them about every three weeks, setting them to a 12/1000 gauge. C. H. Lawson stated that he uses the yarn as a gauge, setting as close as possible without chafing the yarn. On the McColl guide, on 40s yarn, he uses a "tight seven" and goes over them every week.

Mr. Brannon pointed out that a good many gouts are sometimes of a tapered shape, from the spinning room, and then when these come through the spooler they are coming through backward, which causes trouble. Mr. Lockman stated that a lot of gouts come through before the spinner gets the roving. Another man reported that on 30s yarn, on the Barber-Colman type of spooler, he set to a 37/1000. Mr. Lockman intimated that he probably was having a great many tailings with that setting on local cotton, reporting that he uses a 40/1000.

### Cork-Covered Rolls in Spinning.

The next question asked by the chairman developed a rather extensive discussion as to the use of cork-covered rolls on spinning frames. Marshall Dilling, superintendent, A. M. Smyre Manufacturing Company, Gastonia, N. C., was called upon and made the following statement:

"I was rather skeptical of cork rolls up until about two years ago, and then I decided to try them in a small way. I started with a few ends, and had satisfactory results and finally put in one frame and got good results, but one frame is not enough to tell anything with, and so I increased it to four frames, and then put on four more frames and after running those for several months I decided there was merit in the cork rolls, and installed six more frames, then went on up to 18, 24, and 30.

"At first we turned the rolls down so that we could make the roll the same size, but later on we did not turn them down, making them larger, 1 3/16-inch, which we found gave us sufficient stock, so that we could have a cushion the same as with a leather roll on flannel, and at the same time we found we had enough stock so that we could buff them down. Our experience has been that we can run the cork rolls about eight months before we re-buff them. That gives us about twice the life of a leather roll, that is we can run them eight months day and night against about 3¼ months on the leather. Then we can re-buff them and get another run of six or eight months, and we can do that three or four times, and get about 40 months of running, and the cost is only about one-fifth of what the cost would be with leather rolls.

"As to the running qualities of the cork, we have never been able to find there is any disadvantage. We run them on 40s to 80s. During the last year I have kept account of the cost of the rolls, and on the thirty frames we have saved about $300.00. In a year's running the cost will only be for the re-buffing, which will be very small, especially if you have your own machine to do this.

"The rolls being a little larger, the spinners don't like to clean them as well, but taking into consideration the fact that they seldom have to take one of them out, they prefer them. In two years' time I have found two ends lapped up on the cork rolls, and these were not caused by the cork. One was caused by the hard end stopping the under-clearer and the other was caused by oil getting on the top roll. The spinners like the cork because they seldom have to take the roll out. I am convinced that the cork roll is something that is going to be worth while. It is going to save us a lot of money. It is going to run just as good. Some of the makers have recently improved the material and made a much finer grain. I suggested this to them and they received the suggestion from other sources also. They have made a finer grain of cork, and I cannot tell any difference in the finish of a good cork roll and a leather roll.

"I think the cork roll has merit from the standpoint of cost and lasting qualities, and unless I find some reason that I have not run into so far, I expect to continue until I equip all of our frames with cork rolls."

Mr. Dilling answered a question by saying that he uses the seamless type of roll on his spinning frames. He said that he has some of the seamed type on some card room rolls, but has had these only three or four months. He reported that so far these were giving satisfactory results.

"I would like to ask you if you have ever made any test on your clearer waste with the cork and leather rolls?" asked J. S. Lockman.

"We thought that for awhile we were making more clearer waste, but later on we decided that we could not tell that there was any difference," replied Mr. Dilling. "I have never kept an accurate test on it for weight, but just from the looks of it, I cannot tell any difference."

"I have had a frame with one side covered with cork and one with leather, for about two months," said Mr. Lockman. "I have not taken a roll out of either kind, but I find that I get about three to four times as much clearer waste from the leather roll than from the cork roll, and I cannot figure out any way except that on the cork roll this is going through on the yarn. I have tested it week after week and have always gotten three to four times as much on the leather."

In the discussion which occurred concerning this point, it developed that this fact was probably true generally, especially during the first operation of the cork rolls. Mr. Lockman, however, pointed out that the value of this waste would in no way approach the amount of saving indicated by Mr. Dilling, and Mr. Tatum raised the point that, after all, the percentage represented by this clearer waste which goes on through, if evenly distributed on the yarn, would hardly make any difference or have any effect upon the quality of the yarn.

Mr. Nichols asked as to the end breakage from the cork rolls in comparison with leather. Mr. Lockman said that he had made no test on this, and Mr. Dilling stated that, "Our spinners claim that they have fewer ends down on the cork than the leather and I think that this is true. The cork rolls are hard-

er to clean, but because of the better running work, and fewer rolls to take out, they like the cork better."

Mr. Dilling here told of a test made for the Arkwrights by J. T. Wigington, as to breaking strength of yarn made on cork rolls. He said that the test covered three different numbers of yarn, making two tests from each number, and that in each instance the breaking strength of the yarn made on the cork rolls was better than that of the yarn made with leather rolls.

The effect of moisture upon cork rolls was brought up in the next discussion of the subject by T. W. Harvey. Mr. Harvey said that in 1924, his card room was equipped with a tin and paper roof, and that every morning there was a great deal of water dripping down and spoiling the work at the drawing frames, getting on the leather rolls. He stated that he experimented with cork at this point, and also on other card room rollers, and that he found them impervious to moisture, even dipping cork rolls in a bucket of water to test them. He said he found entirely satisfactory results, and that as a result of these findings proceeded to equip all of his card room rolls and to put the cork in on the middle and back rolls on his spinning frames. As to the amount of clearer waste, he said that when the cork rolls are first put in there will be more clearer waste going on through because the rolls are rough and have a tendency to grip the cotton, "and this keeps the cloth wiped off."

A. P. Richie, superintendent, Trenton and Dixon Mills, Gastonia, N. C., reported that he has one frame on cork rolls of the seamed type, stating that he has not tried the seamless. He said that, "I believe it runs a little better and we get away from licking up, but I am under the impression that I do not have quite enough cushion. We are slow to go onto it, but I have found it satisfactory so far."

"We have not tried the seamed type of roll on the spinning, but I am inclined to believe that the seamless would be much better," said Mr. Dilling. "It costs a little more and I think it is worth more."

A member asked concerning the re-buffing equipment, and Mr. Dilling stated that, "you can install equipment for re-buffing the rolls for a little over $500, and it should pay for that in a little while. You can re-buff the rolls for about a half a cent apiece."

Mr. Richie stated that in connection with the two types of rolls he could tell no difference in the amount of clearer waste. He asked how many were running the cork on comber and lap machine rolls, stating that he has one comber so equipped.

Mr. Gibson of Kendall Mills, Paw Creek, N. C., asked as to the system used for changing cork rolls.

"We take them out, a frame at a time, for a number of frames at a time," responded Mr. Dilling. "We started off with six frames, and so we are taking them out six frames at a time. We have a few extra rolls on hand that we use in case a roll is damaged. We have found that we can take out such damaged rolls and let them stay out for a few days, and they will come back to their normal condition, but otherwise we take out a whole frame at a time. Starting with the cork rolls two years ago, we have not recovered a single roll. The oldest ones we have, have been in use for two years."

"How do you know when the rolls are ready to take out?" asked Mr. Lockman. Mr. Dilling said that they merely examined the rolls, and that if the rolls are left in too long they will become rough. Mr. Gibson asked concerning the life of the roll after re-buffing, and Mr. Dilling replied that after re-buffing, the rolls will run just as long, and "you can continue to buff them until they get to a point where there is not sufficient cushion."

Mr. Tatum asked concerning the comparative susceptibility of cork and leather to moisture, and Mr. Dilling reported that, insofar as oil is concerned, there is less damage to the cork. It was brought out again here that recently there has been considerable improvement made in the quality of the cork material used in the making of the cots.

W. L. Campbell, superintendent, Rowan Cotton Mills Company, Salisbury, N. C., stated that about four years ago he had put in some cork rolls on spinning, and that, "the spinners were pleased with them, and finally we put some in on our card room frames. The card room rolls are seamed, and the spinning room rolls are seamless, and we are pretty nearly sold on them." He called upon his overseer of spinning, Mr. Bradshaw, who said that "the only disadvantage with the cork is that after standing over the week-end it does not seem to start up quite as well on Monday until after about half an hour or an hour. It seems to groove just a little bit." He is on 18s to 50s yarn. He stated further that it was difficult to determine just when to take the rolls out and that he thought it a wise idea to take them out about every eight months for re-buffing.

E. R. Rogers, of Durham, N. C., discussed the subject of cork rolls, stating that it was of particular interest to him inasmuch as he is in the roll covering business. He stated that the Durham Hosiery Mills had tried cork on quite a number of different applications, and that it seemed to be the concensus of opinion among their men that the leather roll is preferable for the front roll, but that they like the cork on the middle and back rolls. As to the clearer waste, Mr. Rogers said, the cork roll does not hold it, it seems to go through into the yarn—it certainly doesn't stay on the flats—whereas on the leather roll, there is a tendency to carry it on around and build up a nice cushion.

As to the seamed and seamless type, Mr. Rogers stated that they had used both kinds, and that they had also quite a number of rolls turned down. He said that the seamless is better; that they are making them now with a finer grain, and that it always looked to him like a coarser yarn would be made with a big grain.

Mr. Tatum asked Mr. Rogers as to the comparative average life of leather and cork rolls. Mr. Rogers stated that this would be difficult to determine because of the wide range of numbers they manufac-

ture, but that only the week before he had taken off two cots of goatskin rolls which had been running for two and a half years. He said they were still good and did not seem to be damaged much. He said the average life of a light medium skin leather roll is approximately eighteen months, if it is not allowed to get too much oil on it.

In connection with the life of rolls, both leather and cork, Mr. Rogers expressed the belief that a longer life would be secured if spinners would get the maximum length of traverse of the roving traverse, instead of running a short traverse and wearing a groove in the rolls. In answer to a question from Mr. Tatum he expressed the belief that the roving traverse should come within 1-8-inch of either end of the roll. Mr. Tatum said that "my experience has been that you cannot get that close, or else you will have it running out the ends; if you get within ¼-inch you are doing quite well."

J. V. McCombs of Franklinville, stated that he had tried cork rolls on numbers from 7s to 40s, and had always been able to get from one to three per cent better breaking strength with the cork rolls. He said, however, that he had held off on the cork because he did not wish to turn his rolls down and then put himself "at the mercy of the cork people in case the cork manufacturers in Cork, Ireland, went on a strike." He furthermore pointed out that on an average and coarse numbers, a man has difficulty in getting the correct setting anyhow by jamming the rolls together as close as possible, and, without turning down, the size of the front roll would be increased and this distance lengthened in proportion. It was brought out that in Mr. Dilling's mill he uses a self-weighted middle roller which eliminates this problem, and he admitted that it was necessary to consider this on short cots.

"I have used the seamless type mostly, and I am now using the seamed rolls on part of a couple of frames, but it looks to me like the seam would wear thin," said Mr. McCombs.

J. B. Scarborough, of Paw Creek, N. C., stated that he had had some experience with cork rolls in a previous position, but that at the time he was prejudiced against them and did not know a great deal about them. He said he had difficulty, on a day and night run, where the day spinners would say they were running good, but the night spinners would take them out, saying they would not run. He proposed the inquiry as to whether anyone had had any trouble with cork rolls especially at night.

Mr. Tatum replied that "the evidence is that humidity affects the cork less than it does the leather."

"I am thinking that if the room gets dry it might have some effect on the rolls," said Mr. Scarborough. He added that at his present position they have two frames on cork rolls of the same size as the leather rolls, using the seamless type of cork, and so far they have proven good. He said they had run a test on cork rolls which were not turned down, and these were not very satisfactory, because there was not enough cushion. He had had no experience with cork with a seam in it.

Mr. Dilling stated that he had never heard the question raised as to a difference in the running of the cork rolls on the day and night shift. He brought out here again that there had been considerable improvement made in the composition of the material used in the making of the cots.

"I have been thinking about the buffing," said J. S. Lockman, "and I am wondering if there is any danger in getting the roll down to the same size as the steel roll."

"I have not buffed ours down to that point," replied Mr. Dilling, "as they are still considerably larger than the steel roll. By the time they got down to the same size as the steel roll, your cushion would already be lost."

The chairman asked a show of hands as to how many present had put in cork rolls and discarded them, and a few hands were raised. Asking them how many had tried cork rolls within the past two years and thrown them out, the chairman received no reply.

W. W. Splawn, overseer of spinning, Watts Mill, Laurens, S. C., asked Mr. Bradshaw as to the amount of weight or pressure on the rolls which gave trouble with creasing. Mr. Bradshaw said that he did not know the exact amount of pressure, but that it was the same as used on his leather rolls.

"We have noticed some of that creasing trouble," said Mr. Dilling, "but in thirty minutes it is all gone. The cork seems to have the faculty of coming back to its natural condition after it has been pressed down by a hard end. We turn our rolls over when we are standing for two days or more, but we have always done the same thing with the leather roll anyhow." Mr. Gibson asked if anyone had found that the cork roll required a change of weight, and Mr. Tatum asked if anyone had found it necessary to change the draft gear when installing cork rolls, inasmuch as one man had written him that he had found this necessary. In this connection, Mr. Harvey pointed out that the shell rolls on fly frames are paired up, to 1/1000th of an inch, and that it is very important that in re-covering the rolls with cork that the same pairs be matched up again in order to prevent more difficulty.

A member asked if anyone had experimented with varnishing cork rolls for spinning. Those who reported that they had done this said that it was not very satisfactory.

W. W. Becknell, superintendent, Arkwright Mills, Spartanburg, S. C., spoke in connection with cork rolls stating that "we have been running cork rolls on part of our frames for about four years. We always use the cork rolls on our 5½s filling for osnaburgs, made out of extra low grade cotton and strips. We find that the leather rolls do not stand up on this, and we always use the cork roll in front on this yarn, because it will last from four to five times as long. We use a .90-hank slubber roving in making this 5½s filling. We have not gone into cork further on account of having to turn down the rolls, as Mr. McCombs says." Mr. Becknell said he had cork-rolls on one slubber for about three months, and that

the slubber hand who runs this frame also takes care of two other frames, and that he told him recently that he would like to have cork rolls on the other two slubbers because they ran so much better.

W. C. Johnson, a fine yarn spinner, overseer of spinning at the Dunean Mills, Greenville, S. C., spoke next concerning cork rolls, but stated that "my experience is out of date. We had eleven frames on cork rolls, making from 40s to 120s, and running three different grades of cotton. We ran them for a little over a year, and we made about every kind of twist you could think of. We found that on three-hour tests we would have just a few more ends down on the leather. We did not get the same waste on the top clearers, but we got it on the guides and scavenger rolls. We thought probably it would affect the yarn and make it worse, but we made several tests on that taking the yarn from the leather and yarn from the cork, and ran it side by side and we could not tell any difference.

"The trouble we had was that we were continually changing from one yarn and twist to another. We would run a crepe or voile for three or four weeks and then change it to a yarn with 2.75 or 3.00 twist, and we never could keep the ends up. We would have to swap the rolls. The hard twist seemed to groove the rolls and they would get set to it. We would have to have the rolls changed or else rebuff them, and so we took them out." Mr. Splawn reported that his experience was similar to that of Mr. Johnson's, having tried only a few quite sometime ago. Mr. Splawn said that if he changed only within a range of four or five numbers he did not believe this trouble would develop. He added, in response to a question, that he does not have this difficulty on leather rolls, inasmuch as he carefully inspects them and keeps them in good shape.

In connection with cork rolls, one man brought out that he moves the roll back from the front to the middle and then to the back, as is done with leather rolls, while another man stated that he had found it a good idea to put the new roll in the back and move it to the front, as it seems that the new roll is a little bit rougher.

A. B. Brannon reported that he had run a 90-day test on cork rolls on slubbers, intermediates, speeders and spinning frames; that he could tell no difference in the breaking strength, and that so far his experience with cork rolls has been very satisfactory and he has been very favorably impressed with them. He said that he puts the new rolls in front and moves them to the back. This is the seamed type of roll which is not turned down.

About half of those answering indicated that they were using cork rolls in the card room, in response to the next question from the chair.

Mr. Tatum next brought up the question of calf-skin covering for rolls. J. V. McCombs stated that there is a 125 per cent saving in calf-skin on coarse work, but that the big problem in connection with calf-skin is in getting it applied on the roll promptly; that roll coverers as a rule are not accustomed to using it and it requires a particular knowledge in order to get the proper seam and proper lap in covering. J. O. Edwards of Rhodhiss reported similarly, and A. P. Richie of Gastonia, said that he had put calf-skin on 12,000 spindles, but had found difficulty with the skin "corroding" or "crumbling" on the ends, and becoming rough and accumulating lint, and so they discontinued using them. George Ray of Pelzer said, "We have tried them very extensively. We had to learn to cover them. We like them, but it is so smooth that it does not carry the clearer waste back, and it forms what we call an eye-brow."

"I have about 80 frames on calf-skin," reported Mr. Splawn. "We started them up on solid frames, and have had them going since July 17th. My impression is good so far. We inspect each roll, and, on 70s, our ends down have improved considerably. We are thinking of adopting the calf-skin, but do not know yet. They cost one cent more per roll. Our leather rolls run on an average of 3¼ to 4¼ cents." In connection with the difficulty of "crumbling" at the ends, Mr. McCombs stated that this could be caused by the ends of the leather roll projecting out over the ends of the steel rolls.

Mr. Richie said that he had found that the calf-skin rolls lasted "too long" and Mr. Splawn asked him what he meant by this, and he said, "When it starts to make bad yarn."

Mr. Tatum brought up here again the question of the traverse of the roving guide, and, in response to his request for a show of hands, no one indicated that he is running the traverse to within ⅛-inch of the end of the roll. Practically every one present indicated that if it were possible to run them within ¼-inch of the end of the roll that this would be the more satisfactory method. For the benefit of any carders present, Mr. Splawn stated that he had had trouble with some of the tapered gouts previously referred to, and that in tracing these back, he had found that they were caused in the spinning room.

### Washing Out Bases and Bolsters.

"What is the most practical way of washing out bases and bolsters on spinning frames?" was the next question submitted by Mr. Tatum.

"'The way I do it is to oil them with kerosene and oil about once every six months," said J. S. Lockman. "I find that this is the best way to keep them cleaned out. I mix the kerosene and spindle oil about half and half." E. B. Brannan said that he had found it more satisfactory to take them out and clean them with a scouring compound. Mr. Harvey said that he had found it satisfactory to use a suction pump and suck the old oil and sediment out. Mr. McCombs said that on the old style bolster it was necessary to do these things, and that his father had a rubber tube with which he sucked the oil out by means of a pump. With the new improved bolster, he continued, with the hole in the side of the steps, it is only necessary to use a good oil, and then about twice a year mix one half kerosene and one half oil, and clean out the sediment.

(*Continued on page* 69.)

# Methods *of* Cleaning Machinery Discussed *at* Durham

Eastern North Carolina men discuss best ways of cleaning and lubricating in the carding and spinning departments. A large attendance and a concentrated, planned program result in a most constructive and interesting meeting.

Carl Harris talks, disapproving the use of compressed air and whisk brooms in cleaning. General concensus of opinion expressed at the meeting in agreement on these points as well as disapproving the use of flaps for cleaning the fronts of cards.

METHODS OF CLEANING MACHINERY in the carding and spinning departments, and means of preventing loose fly, dirty and greasy streaks and slugs in yarn, formed the basis of an interesting discussion meeting at Durham, N. C., held on Friday, October 17th, by the Eastern Carolina Division of the Southern Textile Association. The Erwin Cotton Mills Company of West Durham, were hosts for the occasion; the meeting was held in the Erwin Auditorium, and ladies of the mill village served a wholesome and palatable meal to the visitors.

Norman B. Hill, of Kinston, N. C., chairman of the division, presided. M. R. Vick, overseer of carding, Rosemary Mfg. Co., conducted the morning session on carding, and J. W. Cates, superintendent, Edenton (N. C.) Cotton Mills, had charge of the afternoon session which was devoted to spinning. W. F. Carr, secretary of the Durham Hosiery Mills, welcomed the visitors to Durham.

The use of compressed air for cleaning came in for a general condemnation by most of those participating, as well as the practice of using flaps for cleaning around the machinery.

### Carl Harris Talks on Cleaning.

Carl R. Harris, manufacturing engineer of the Erwin Cotton Mills Company, was asked to open the discussion on cleaning by outlining some of the progress that had been made in this connection. He said in part:

"If we could only realize that cleaning is one of the most important problems in the mill, and has more to do with quality and quantity production than any other one thing, we probably would go into it a great deal deeper than we ever have before; and I think that there is a tendency in that direction.

"I would say that in the average weave mill, 25 per cent or more of our loom stops are caused from foreign materials of some kind getting into the yarn. That might not hold good in every case, though I would say that is certainly a low average. I heard a man say the other day that he found that figure about true, and I should say that his mill is at least average or better. We will spend thousands of dollars with someone who will guarantee to reduce our loom stoppage by ten to fifteen per cent, when it is within our own power probably to reduce them by 25 per cent or more.

"No system will ever be inaugurated to eliminate foreign matter entirely, but most of us have been very negligent in that direction. I know of a time when I put in a very strong appeal for compressed air; I felt that it was absolutely necessary. But today the tendency is to get away from any compressed air. There is a tendency to go to a vacuum system. The compressed air idea is wrong, because it is the wrong principle to blow the lint from the machines and ceilings all over the material in process. Many of us are still guilty of doing that very thing. In fact, I have recently had an experience of being on fine carded broadcloth, where compressed air was used. We started to work to eliminate the compressed air altogether, for cleaning purposes, and after a number of months we increased our production and decreased our seconds."

M. R. Vick.

C. R. Harris.

Mr. Harris then began to point out some general thoughts in connection with cleaning practice. "I doubt," he said, "if you could find many mills that do not allow their card hands to use flaps in cleaning off the cards. Yet it is becoming a general practice to use yarn brushes on cards, which is about as good a cleaning method as we know of now; and this way is very damaging unless it is handled with a great deal of care. On the fronts, no brush should be used; they should be wiped off by hand with a piece of waste, for lumps made here by brushing or fanning will make weak yarn.

"The same thing applies on the drawing frames and fly frames. It is not unusual to see flaps being used on drawing, but this is absolutely the wrong principle, because the lint is going to settle down somewhere. It should be our aim to remove it, not fan it around, but remove it.

"There is a tendency also to eliminate absolutely the use of whisk brooms around the frames in the card room. Various systems of cleaning can be worked out on the frames that will be advantageous. It is possibly a general custom in doffing speeders to lay up the front set of flyers, put on the empty bobbins and then

J. O. Creech.

N. B. Hill.

C. A. Davis.

doff the back row and put on the empty bobbins. But before the frames are doffed it is a good policy to pick the flyers, then wipe the clearer boards and lay *both* sets of flyers on the clearer board. Then you can pick the spindles. Before the bobbins are removed from the spindles the spindles should be picked. When the flyers are removed, you can get to the creel boards and back spindle boards and carraiges, and it is surprising how quickly this can be done with the flyers out of the way."

Continuing, Mr. Harris stated that he would outline briefly some of his methods, without attempting to advise as to the frequency, since this would vary so much with individual conditions. He said they do not wipe back guides with frames running, which would catch the foreign matter on the roving. "In the spinning room there are so many mill practices that I would not attempt to name them. It is a general practice to run out the guide boards three or four times a day, and wipe the back guides one time a day and the creels, and brush off the rails with a whisk broom four times a day. In every operation, if you will watch it you will find that foreign matter is being collected in the yarn. I do not believe in a whisk broom being used in a spinning room, because you are doing damage to the machine next to you. Either a rail brush or a yarn brush made out of yarn long enough for the purpose will eliminate a lot of the fanning. A good policy, if worked out properly, is to have the spinner carry a guide brush along with her. I have seen it worked out very nicely, and it is no trouble after she gets used to it.

"Back guides should never be wiped through the yarn. A good method is to 'string' them. It is surprising how much stuff the spinners do put into the yarn while wiping back guides through the yarn.

"On the creels it is a custom to lay up two layers of roving, and different mills have different systems for working it off. But you will have roving on top of that frame for a long period of time, and the longer it stays the more lint it will collect, and when that roving is put into the creel that lint will spin through into the yarn. That can be remedied by laying up only one layer of roving and letting so many frames run empty every day and seeing that the creels are cleaned well.

"Another thing, if you will watch closely the roving man who pulls the empty bobins off of both sides, he pulls off the lint that has collected as he goes along, and that falls down into the yarn. It is an easy practice to furnish spinners with aprons to put empty bobbins in. In that way you not only avoid pulling the lint off, but it makes the removal of the bobbins so much easier.

"This problem of cleaning, as I see it, is one that we will have to give our best attention to. Most of us have previously said about an operative that when she learned how to put up an end, or do something else, she was trained, but our greatest problem is to train her as to how to keep her work clean. A well-kept, clean room certainly has its effect on the people who are working in it."

### Preventing Oil and Lumps in Yarn.

Following Mr. Harris' talk, Mr. Vick opened the meeting for a discussion of the question, "What system of cleaning the various processes will produce yarn clear of loose fly, dirty and greasy streaks, and slugs?" explaining that the morning discussion would be confined to the carding department. He called upon A. L. Oldham, overseer of carding, Erwin Mill, No. 2, Erwin, N. C.

Mr. Oldham stated that his mill is on coarse colored work. In the opening room, he said they are careful to keep the cotton clean; he emphasized the importance of keeping the flues and pipes cleaned. He wipes off the front of the cards. Mr. Vick asked if he had noticed an accumulation under the calender rolls, where the cotton goes down into the coiler head, and what effect this would have on the yarn. Mr. Oldham replied that it would make weak places.

G. M. Gurley, overseer of carding, Rosemary Mfg. Co., declared that he uses the cloth flap for cleaning the backs of cards, that he has found no other satisfactory way. As to brushing down ceilings, he said that while he does not necessarily approve of compressed air, that is the best way he knows of. He said it is all right to wipe down wherever possible. Mr. Vick pointed out that if a flap is permitted anywhere around a card, the chances are that unless carefully controlled, it will be used everywhere, as well as at the back. He next asked if anyone would describe a satisfactory system of cleaning ceilings without brushing them off.

"It is not necessary to brush it down into the work you want to keep it out of," said M. R. Harden, supt., Erwin Cotton Mill No. 1. "Brushing should not be done during running hours, unless a unit at a time is stopped and covered up. On the cards the end should be broken down between the comb and the coiler. Brushing down overhead is necessary in order to

J. W. Cates.

D. F. Lanier.

T. W. Mullen.

keep a clean mill. As a gentleman just said about using a flap, when you use a flap in a card room, it is difficult to regulate just where it is to be used. I am not in favor of the use of a flap in any part of the card room, because when you use a flap you increase the lint overhead and cause more brushing down to be done, whereas by wiping the fronts wtih waste and using a swab on the backs it is the best method. In brushing down over cards, I think it is the best method, if you brush down while you are running, to cover a unit of the machinery up.

### Packs Roving in Boxes.

"Mr. Harris mentioned picking the spindles, and I might add another point. In doffing the fly frames the flyers are picked and laid up, and in addition, the full bobbins of roving should be packed in the box straight. Even with careful picking of the spindles, there is some lint in the base of the bobbin, and if those bobbins are thrown in on top of other full bobbins, there is a tendency to make a black spot which will make a dirty slug. We stack our roving carefully in the boxes. Also, we had some moldings put on the back of the drawing frames to keep the hands from pushing the cans too far under the frame. I think the idea of using a flap or a whisk broom or cleaning by air is fast becoming obsolete."

Regarding the packing of the roving in the box, T. W. Mullen, superintendent, Rosemary Mfg. Co., inquired whether this would not increase the amount of time required for doffing, and thereby decrease the production of the frame. Mr. Harden replied that he knows of a number of mills which are doing this, and that it does not increase the time noticeably. He said they lay the bobbins on the box two at a time, lengthwise of the box. Later P. B. Parks, manager, Erwin Cotton Mills Co., and E. M. Holt, superintendent, Mill No. 4, confirmed this statement that actually very little more time is necessary for doing this. Mr. Holt stated that a test had shown that from stopping to starting, it required an additional three minutes. All of them were agreed as to the benefits of the practice.

C. S. Tatum, manager, Consolidated Textile Corp., Raleigh, N. C., said that on a previous job he had to do this once a week, because they oiled the tops of spindles on Monday morning, and that for that day required stacking, but that as a matter of fact, he noticed that no oil showed up after the first three or four doffs. He said, with this method, that "it did slow them down some."

### Why Oil Spindle Tops?

This brought from Mr. Vick an inquiry as to why it is necessary to oil the tops of spindles. He contended that this is useless, that no advantage is gained because the oiling is done on such a small portion of the spindle, and that, furthermore, the oil quickly disappears. He said, in addition, that with oil on the spindle there is a greater tendency to collect lint and dust there and choke the spindle, than by leaving it dry and slick. He said, however, that he does have his men go over the tops of the spindles weekly with an oiled wad of cotton and touch the spindles. There was a general discussion on this, and opinion seemed somewhat divided as to this point. Mr. Vick explained that there is much more probability of a stuck spindle because of the accumulation caused by the oil, or by the frame hands "battering the end of the flyers," which must be kept reamed out. Another man from Durham stated that he uses, once a week, the practice of wiping the spindles with an oiled wad of cotton.

### Why Oil the Bolsters?

The question of the wisdom of oiling spindle bolsters also came in for discussion, and there was a difference of opinion, many present contending that they had not oiled bolsters for years and had no trouble with hot spindles, others taking the opposite stand. One man said that, "the least oil we can put around the spindles, the better it is for us." As to laying roving bobbins in the boxes, this man also said that, "I believe that after the frame hands get used to it they would rather do it that way." He stated that he oils bobbin gears once a week, of course.

Mr. Vick reported that they oil bobbin gears twice a week, "but I have stopped oiling the bolsters entirely. I do not believe in it, and I do not have any hot bobbins or stuck spindles."

Mr. Haley of Kinston was called upon and said that "we lay up one row of roving, and stack it in the boxes carefully. Up until the time we did that we had quite a few marks on the bobbins. With regard to oiling spindles, we do that once a week, and oil the bobbin gears every 24 hours on day and night run. We do the cleaning of the roller beams at the same time we doff, and we clean the steel rolls on the doff. We pick our rolls, but do not use waste or a brush. We have cut down considerably on our dirty oil streaks. We have not used a fan or a flap around the cards in quite a while. We use only mops and waste. We clean overhead during the noon hour. We try to have the frame hands trained to take out all black specks in the creels before they do their creeling."

"On your drawing frames, do you ever have any seepage of oil that would accumulate waste under the head of the drawing frame coiler?" asked Mr. Vick. "Yes," replied Mr. Haley, "we had that trouble when we used a heavy oil, but eliminated it when we started using a light oil. "You'll have the same trouble on the cards, too." Mr. Vick said he brought the point up because recently he noticed it and that now he has his wiped off with a rag on the first doff every morning.

"How do you clean steel rolls?" asked Mr. Brannan, of Consolidated Textile Corp., Raleigh. A man from West Durham replied that, "that is hard to explain; it depends so much on the operative. I try to have them picked with the fingers. But it is hard to get it all out with the fingers, and about once a month, I go over the whole room with a spare hand and stop a frame at a time and clean out the chokes.

"I would like to mention another point about fanning off the card backs," he continued. "I find that

if at dinner time, you will cut out the feed and wipe the bonnets off before fanning, there will not be so much stuff to go into the work. It's pretty hard to do all the cleaning there with a brush. You can't make a brush to get into all of the places."

### D. F. Burns' Method.

The chairman called upon D. F. Burns, superintendent of the yarn mills of Durham Hosiery Mills, to discuss his methods of cleaning. "In the opening room, when we get the bales of cotton in, we have them picked to get all of the heavy trash and dirt off of them," said Mr. Burns. "Then we have them brushed with a whisk broom before we open them up. We feed them in thi nlayers, and have a man to watch them for any grease that might have gotten in at the gin. Then when we clean up our opening room we do not have any opened cotton in it.

"In the lapper room, we cover all of the intermediate and finisher aprons with paper before we clean down overhead, and wipe the machines with brushes. We have the floor swept and clean up before starting the machines, and, on any laps that are on the floor we have all the black stuff picked off. When we clean the picker room we try not to have any more laps in it than we can help.

"Around the cards we stop when we clean overhead, and we do not allow any laps to be in the racks. The laps that are creeled in are picked carefully. We wipe the cards off with brushes, and do not use any flaps. On the drawing frames we clean up the machine all over every time we creel. The rolls and clearers are picked often enough to keep anything from falling in. On the fly frames we take the flyers off and lay them on the clearer boards, picking them before we take them off. Then we wipe the top of the spindles, and pack the full bobbins in the box so the bobbin bases will not touch the roving. We have our boxes made so that they will fit. We wipe the roller beam and guides before starting up another doff. We clean our frames off with a whisk broom and comber duster twice a day.

"We use no compressed air in cleaning at all except in our waste department where we run colored work. In cleaning overhead around the fly frames we do that while they are standing, and we require all frame hands to pick the foreign matter off of the creels before starting the frames."

J. E. McAlister, overseer of carding, Bedspread Mill, Leaksville, N. C., pointed out that on colored work, when changing frequently during the day, it is necessary to get the cleaning done as quickly as possible, and that therefore, he finds it advisable to use air—either compressed air or flaps.

"In regard to cleaning around drawing frames," said R. H. Armfield, overseer of carding, White Oak Mills, Greensboro, N. C., "we had lots of trouble with getting oil from the calender rolls. We made a little pan out of tin to go right under the bottom of the stand, and that keeps a lot of oil out of our goods."

Mr. McAlister declared that the beater boxes on pickers are a prolific source of oil on the stock, and that care should be exercised in not getting too much oil put on here, either on ball or plain bearings.

### Cleans More Often.

P. B. Parks, Jr., of the Erwin Cotton Mills Co., stated that in one card room they had encountered the difficulty of heavy foreign matter falling into the stock in cleaning overhead. That they tried it then during the noon hour but that this was not entirely satisfactory because the heavy stuff would fall into the webs. Then, he said, they began cleaning down more often, not allowing the stuff to accumulate; that sometimes when they would clean it would seem as if there were nothing there, but that it was in reality a fine lint which would give trouble if allowed to accumulate on the ceiling, shafting and pulleys. He said they used compressed air for this cleaning because it was a coarse goods mill.

Mr. Harden asked for a discussion as to ways of checking up on the bad work which is made. One man stated they use a "bad-work board," which specifies all of the various defects, and that as these are discovered they are taken to the man who made them, and they are also listed opposite his name on the board. D. F. Burns stated that they have their spinners break out black streaks, singlings, doublings, etc., and that these are traced back to the machine in the card room making them. One man said he traces bad work back as far as the drawing frames.

J. C. Wilkins, of Goldsboro, stated that he traces oil back to the coiler heads on the drawing. He added that in oiling top leather rolls on frames, he has found that a heavy oil will run out and drop onto the work, and that the best way is to use a thin oil of a good grade for oiling the arbors.

### Put Bosses on Drawing Calender Rolls.

"In regard to oiling the calender rolls on drawing," said W. V. Byers, superintendent, Erwin Cotton Mill No. 2, Erwin, N. C., "the back calender roll usually is a solid roll, but we have turned down some of these to make a boss on them so that the oil cannot run down the rolls."

"One of the most important things about oiling is to have a good oiler," said G. E. Moore, J. M. Odell Mfg. Co., Bynum, N. C. "There are lots of men who know how to do other things, but do not know how to oil. In most cases it is better not to put enough oil on rather than to put too much. In so many cases there is too much oil put on, regardless of the kind of oil. It runs out on the work. I do not think there is any better way than for each department to check up on one another. You can usually tell where it comes from.

"We use ball bearing rolls and we do not get any oil out of the rolls.

"If one department will carry a piece of bad work back to where it came from, that overseer should be anxious to locate the trouble and correct it."

"I can't conceive of a carder who is not anxious to find it," said Mr. Vick. "But I am free to admit that I have had some that puzzled me. We have our

overhead shafting oiled once a month, and sometimes a bearing will drop oil down on a machine. But, it is up to the carder and his help to make goods that are salable, and if a man is not anxious to eliminate any kind of bad work he is not worthy of holding his job. If the spinner brings it back to him there is no need for him to get huffy; it is up to him to correct the trouble."

### Picking Clearers.

Mr. Harden brought up the question of slugs by pointing out that "nobody has touched on picking clearers. If the clearers are not watched, the human element will enter into the bad work. It is almost boiled down to the human element, and depending upon the poundage of stock per spindle, in that proportion the clearers must be picked or else waste will accumulate and drop into the running work, and that is where we get a lot of slugs."

'How about clearer waste?" asked Mr. Vick. "How often do you have the clearers picked? How long will a clearer wear before it should be turned or replaced?"

F. E. Ratcliffe, of the Durham Cotton Mfg. Co., stated that they have two sets of under-clearers, and "experience has shown me that it is absolutely essential to keep the under-clearers clean, the back as well as the front. It is hard to do, but we have eliminated fifteen percent of our bad work by going from four to six times a day. Another place we believe we have helped is in brushing underneath our licker-in screens about every other day at noon time. Another point I should like to mention is about oiling. Sometimes we neglect cleaning up next to the stands of the steel rolls and waste accumulates there and gets black. Maybe there are three or four frames that can cause just a lot of it and you cannot see where it is coming from. And then up next to the head it gets on the top roll and there will be a great big lump around the top roll that will accumulate in a half day.

"We try to clean the clearers every doff. We have is understood with the men that they look for these things, and then each time they creel they look for any foreign matter, and then they go back and look again. We have reduced our bad work by 50 per cent." He stated that he does not pay a premium for turning up bad work.

F. M. Durham, of the Durham Hosiery Mills, stated that they clean the under-clearers on drawing at each creeling; top clearers are cleaned at each doff on drawing and fly frames. He said they pay a ½ cent for each piece of bad work turned up by spinners, and that it works very satisfactorily. Their foreman and second hands check up on it very closely each day, and the bad work is taken back to the speeder hands.

Mr. Durham also explained that they had derived considerable benefit by using a suction cleaning system for cleaning out the insides of bobbins. He said they have a suction pipe, and both ends of all bobbins are placed against it, and the greasy fly, etc., drawn out of the bobbins.

P. B. Parks raised this question: "When you put on a new roll, the clearer waste will pick up and pitch off and be licked in. What kind of clearer cloth is best to use to prevent this, a long nap, a short nap, or no nap at all?"

Mr. Bumgardner, of Hillsboro, replied that there is no cloth that will help to prevent this with a new roll; that it is due to the pressure and texture of a new roll, and that it is possible to control it only by means of the human element.

"We had a brush made that just fit the top of the clearer board, with bristles, that helped in taking care of these 'monkey tails'," said Mr. Tatum, who continued,

### Can You Pick Clearers Too Often?

"I would like to know if there is anyone else who has had any trouble with picking clearers? That is, it seems to me that the more we pick them the more trouble we have. It seems that just after picking is the worst time." '

"My opinion is that when you get an old clearer cloth, you will have trouble, and if you turn or change the clearer cloths often enough, I believe it will eliminate a lot of the small stuff that stays on to an old cloth," said Mr. Vick.

"Have you ever tried taking a piece of card clothing and carding up the clearers?" asked Mr. Haley. That would seem to indicate that more nap is preferable, suggested Mr. Tatum, if carding the clearer improves it.

Mr. Vick pointed out that if the operative is not careful in picking the clearers, and leaves some on the back, this will form little conical nubs which will drop off into the work. He said they will not break down in the card room, but will do so when they get to the spinning frame.

A member asked whether those using cork rolls experience the trouble of the clearer waste hanging down over the front of the roll. Mr. Tatum, who does not use cork, stated that he understood that with cork rolls there was no trouble of this kind. Mr. Vick asked for others' experience on a double boss work roll on speeders. R. M. Armfield said they have one frame so equipped, and that after having the rolls re-buffed he has no difficulty.

Mr. Harden asked whether it is practice to pick clearers while the machines are stopped for doffing, or while they are running, and several indicated that a more thorough job, with less possibility of trouble, could be done while the machines are standing. The discussion on this point led D. F. Lanier, superintendent, Oxford Cotton Mills, Oxford, N. C., to point out that while it might be ideal to stop machinery for cleaning, the item of securing production must be borne in mind, and that if too much stopping is done for cleaning, necessary production would suffer.

As to picking clearers, W. V. Byers agreed with Mr. Tatum that "the more you pick them the more you get. My idea about picking clearers is that there

(*Continued on page* 107.)

# *The* KENDALL MILLS PROGRAM *of* Inspection *and* Maintenance

## Part II

By H. K. Hallett, General Manager
Kendall Mills Division,
The Kendall Company.

*This section of Mr. Hallett's discussion covers the Kendall program of belt and electric equipment inspection and maintenance. The first part, published in the October issue, discussed the program of machinery inspection and maintenance. Clippings of the first article, for those who do not have it, will be furnished upon request to provide a complete description of the program.*

*Whether local conditions warrant the adoption of the entire program as here described, there is much in this discussion which can be adapted by many mills to suit their conditions.* THE EDITOR.

The purpose of Belt Inspection and Maintenance may be outlined as follows:

(a) To keep the cost of belting at the lowest possible minimum by proper cleaning, dressing and inspection;

(b) To maintain operation of machinery at all times;

(c) To maintain the speeds of all machines at the standard set for each machine;

(d) To maintain adequate records for accurate check on the wearing qualities or the economy of any particular belt.

### Duties of the Belt Man.

(a) To care for all belts in the mill including motor, counter-to-machine, and purely machine belts with the exception of cone belts on roving frames. In order to do this he follows regular schedules of cleaning, dressing, and inspecting. In general, all belts should be cleaned once a month, but this interval may be adjusted to meet local conditions. It often is advisable to make the first cleaning with gasoline, thereafter using a pliable piece of thick rubber or leather or waste. Card clothing is never permitted. Once a month and after cleaning, a belt dressing is applied if the belt man finds it needed. Castor oil, neatsfoot oil, cod oil, tallow, or the belt preservative recommended by the belting manufacturer are all permissible.

The belt man's experience guides him as to the requisite amount. The ideal condition is attained when the thumb pressed hard to the surface sticks slightly on withdrawing. There should never be enough dressing to make the surface of the belt at all slippery. The object of all dressing is to preserve the leather and reduce slippage. Dressing may be applied to the face or back of the belt. Some belts can be dressed while in motion. High speed belts must be stopped and turned by hand. Care should be taken that no dressing is thrown off the belt into the cotton.

All belts are inspected on schedule for slackness or slippage. The belt man determines the proper method of fixing them. He may decide to cut, clean, dress or repair the belt. Counter and motor belts are inspected while stopped each week and all split laps fixed and other necessary repairs made.

When the belt man is on duty, presumably only during the day, he should be notified at once of any belt breaks. Whenever he leaves the belt shop he leaves a card in his window where he may be found. He has a portable repair kit which contains all tools necessary for whatever work may be required.

He should also be in a position with pieces of belt or extra belts to repair or replace any belt in the mill on short notice. He must bear in mind constantly that his responsibility is to keep the wheels turning at all times.

Should a belt break on the night shift, the room overseer will have the repair made by his own help. If a renewal is necessary a belt will be requisitioned from stores, and on the issue slip is indicated the location of the new belt. Each morning the belt man goes to the store room, notes these renewals and examines these belts for squareness of the joints, tension, pliability, etc.

All belting discarded by an operating department goes to the belt shop for examination. It may be possible to rework parts of it by cleaning, cutting and cementing, so that with other short lengths cemented on from time to time, it can be replaced on the type of machine from which it was taken. Or the belt man may decide to cut down the width of the belt because of a ruffled edge. Out of small pieces he may make bumpers, and power straps for the loom.

### Maintenance of Belt Records.

The belt man keeps certain records and makes a few simple reports. For example, a tickler card (Fig. 1) is made out for each working day and as the belt man puts on a new belt he notes on the proper tickler card the symbol or location of the belt under "Symbol" and the nature of the work to be done on it under "Operation." New belts should be inspected for tension at intervals of 24 hours, 48 hours, 1 week and two weeks. The tickler card is of value in a large mill where the belt man cannot make detailed daily inspec-

TICKLER CARD DATE 7-28-30

| SYMBOL | OPERATION | SYMBOL | OPERATION | SYMBOL | OPERATION |
|---|---|---|---|---|---|
| S-F38 | Belt Renewed | | | | |
| C-L1-C3 | Belt Tightened | | | | |

Fig. 1.

tions. In a small mill, its value is questionable.

Then there is a belt record card (Fig. 2) which is made out for all motor and counter belts, certain representative machine belts and all special or test belts. Its purpose is to keep an accurate record on the performance of certain types of belting under various types of load, humidity conditions, etc. The cards are filed according to departments and arranged in symbolic sequence. Where speeds are taken and dressing applied at regular intervals, some of the debit entries may be omitted but "Date Re-tightened," "Amount taken out," and "Cost Work," should be entered in all cases. The record gives a representative cross-section of belt performance of the entire plant and for this purpose, it is better to keep a relatively small number of cards well than to have many of indifferent value.

BELT RECORD CARD

MACHINE Nº 275 DEPT. Weaving BELT SYMBOL W-L8-L275
MAKER'S NAME Smith & Smith GRADE X-Extra Heavy FASTENER Sawyer
LENGTH 14' WIDTH 2" THICKNESS 1/4 PLY Single
DRIVING PULLEY 7 3/4" RECEIVING PULLEY 14" CENTER DISTANCE V
R.P.M. DRIVING PULLEY Appx 300 R.P.M. RECEIVING PULLEY 160 BELT SPEED 608.8 F.P.M.
POWER DEVELOPED Appx 12 H.P. TYPE OF DRIVE Open from shaft
DATE PUT IN USE 1-1-28 DATE TAKEN OUT 2-4-30 LIFE OF BELT 2 yrs. 1 mo. 3 da.
COST OF BELT $4.22 COST OF MAINTENANCE TOTAL COST
BELT DRESSING TO BE USED Neatsfoot & Castor oil

| DATE RETIGHTENED | R.P.M. BEFORE TIGHTENING | R.P.M. AFTER TIGHTENING | AMOUNT TAKEN OUT | DATE SPEEDS SHOULD AGAIN BE TAKEN | DATE CLEANED AND GREASED | DATE TO BE CLEANED AND GREASED AGAIN | DATE DRESSING PUT ON | NOTES | WORKMAN'S INITIALS | TIME REQUIRED TO DO WORK | COST OF WORK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-1-28 | 156 | 161 | 1½" | 1-15-28 | 1-14-28 | 2-15-28 | ✓ | | | | |
| 1-5-28 | 158 | 161 | 1" | | | | | | | | |
| 2-21-28 | 158 | 162 | 1¼" | | | | | | | | |

Fig. 2.

## Belt Renewal Record.

Many belts on roving frames, cards, spinning frames and looms will not have individual record cards. In order to keep a record of the rate of replacement on these belts a belt renewal record (Fig. 3) was designed calling for frames or machine number and dates of renewal or replacement. This form is used for machine belts which have individual cards. When the belt man posts a renewal against any checked belt he then can complete the individual record card immediately, and turn it over to the master mechanic. Also, after taking speeds, or after inspection, the belt man should keep a record of all belts cut. Then by checking that record with his checked belts in the renewal record, he can easily determine what entries to make on his individual belt record cards.

## Belting Cost Record.

The purpose of the belting cost form (Fig. 4) is to provide information for a complete report on the cost of belt maintenance over an extended period. If the belt man does other kinds of work, his time for such work obviously is not included on the belting cost record on which only time spent in renewal and maintenance of belts is entered.

## Record of Speeds Highly Important.

The record of speeds is one of the most important records, because it shows at regular intervals the status of your machinery in relation to maximum speeds. The fact that speeds directly relate to maximum production gives this record an outstanding significance. To the mill manager who has not taken *individual* loom speeds of every loom in the mill at least once a month on both belt and motor drive, these speed records will reveal astounding variations. At schedule time and at least once a month the belt man takes the speeds of the major producing machines. On frames, he takes front roll speeds; on cards, cylinder speeds, and on looms, picks per minute. For this purpose he uses a Hassler speed indicator which will register up to 1000 r.p.m. and from which he gets his reading in a few seconds. Standard speeds for each type of machine are supplied from the office.

In case the belt man cannot bring a machine up to standard speed through belt adjustments, he should determine the reason for variation. It may be due to a change of twist gears, to slipping of the clutch in the case of looms, or to various other reasons. He notes at the bottom or on the back of his speeds form numbers of the machines on which it was necessary to cut the belts and from these notations he later can make the necessary entries on his belt record cards.

Speed sheets (Fig. 5) are made out in triplicate, one copy to the room overseer, one to the manager, the belt man retaining the third until he has drawn off

BELT RENEWAL RECORD

| | DRIVING BELTS | | | MACHINE | | | |
|---|---|---|---|---|---|---|---|
| Nº | DATE | DATE | DATE | Nº | DATE | DATE | DATE |
| C-L3-C1 | 4-14-26 | 8-30-29 | | | | | |
| C-L3-C2 | 3-2-28 | | | | | | |
| C-L3-C3 | 8-2-25 | 5-4-27 | 6-3-30 | | | | |

Fig. 3.

MACHINE SPEEDS

DIVISION _____ CHECK (✓) WHERE BELTS TIGHTENED DATE _____

MACHINE _____ CHECKER _____

STANDARD SPEED _____ AVERAGE SPEED _____

| MACH. Nº | SPEED | ✓ | MACH. Nº | SPEED | ✓ | MACH. Nº | SPEED | ✓ | MACH. Nº | SPEED | ✓ | MACH. Nº | SPEED | ✓ | MACH. Nº | SPEED | ✓ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | | | 51 | | | 01 | | | 51 | | | 01 | | | 51 | | |
| 02 | | | 52 | | | 02 | | | 52 | | | 02 | | | 52 | | |
| 03 | | | 53 | | | 03 | | | 53 | | | 03 | | | 53 | | |
| 04 | | | 54 | | | 04 | | | 54 | | | 04 | | | 54 | | |
| 05 | | | 55 | | | 05 | | | 55 | | | 05 | | | 55 | | |
| 06 | | | 56 | | | 06 | | | 56 | | | 06 | | | 56 | | |
| 07 | | | 57 | | | 07 | | | 57 | | | 07 | | | 57 | | |
| 08 | | | 58 | | | 08 | | | 58 | | | 08 | | | 58 | | |
| 09 | | | 59 | | | 09 | | | 59 | | | 09 | | | 59 | | |
| 10 | | | 60 | | | 10 | | | 60 | | | 10 | | | 60 | | |
| 11 | | | 61 | | | 11 | | | 61 | | | 11 | | | 61 | | |
| 12 | | | 62 | | | 12 | | | 62 | | | 12 | | | 62 | | |
| 13 | | | 63 | | | 13 | | | 63 | | | 13 | | | 63 | | |

Fig. 5.

wide, high.

(5) Belt press. This can be made from clamps and slabs of heavy rubber.

(6) Receiving table. Four feet long, 22 inches wide, 41 inches high.

These last three tables should be arranged in order so that the work can pass speedily along from one to the other.)

(7) In addition to the above there are various hand tools; cement, belt hooks and other supplies.

All electrical equipment, starting at transformers and carrying through incoming lines, switchboard, distributing lines, fuses, disconnects, compensators or controllers and motors themselves should receive systematic, thorough-going inspection by the electrician at stated intervals. No attempt will be made to discuss in detail the methods or frequency of such inspections except as they apply to motors.

the material for his records, and then he turns it over to the master mechanic.

### Belt Room and Equipment.

The belt room is located to afford convenient access to all departments. In area it should approximate 25 x 10 feet and should contain the following articles the dimensions of which should fit the individual mill's requirements:

(1) Desk. 30 inches high, 36 inches long, 22 inches wide, with two drawers. One drawer has a compartment suitable for keeping a tickler file and belt record cards. The other is used for miscellaneous articles such as form pads, memorandum, stationery, etc.

(2) Preparing table—36 inches high, 5 feet long, 18 inches wide. On either side and about 10 inches from the top is an 8-inch shelf running the length of the table on which can be laid slabs of belting during the preparing process. In the top of the table is embedded a piece of plate glass 14 x 14 inches about five inches from one end. Between the glass and the table edge is a 22-inch slot into a removable drawer which catches all skivings. On the other side of the glass and perpendicular to the table is an eccentric clamp used to hold the piece of belt in place.

(3) Cementing Table. 8 feet long, 22 inches wide, 41 inches high. Top covered with galvanized iron from which cement easily can be wiped.

(4) Belt press table. 24 inches long, 22 inches

BELTING COST RECORD

WEEK ENDING 6-8-29

| ○ | DATE | BELT SYMBOL | REMARKS | RENEWAL MATERIAL | RENEWAL LABOR | MAINTENANCE MATERIAL | MAINTENANCE LABOR |
|---|---|---|---|---|---|---|---|
| C | 6-3-28 | C-L3-C1 | 35 ft-3" single ply belting | 16.55 | .25 | | |
| | 6-4-28 | Card | Belts cleaned & dressed | | | | 1.00 |
| | 6-5-28 | " | Speeds | | | | 1.50 |
| | 6-5-28 | C-L1-I1 | Repaired broken belt | | | .08 | .50 |
| | 6-8-28 | C-L3-C6 | Repaired broken belt | | | .40 | .50 |
| | | | | 16.55 | .25 | .48 | 3.50 |
| S | 6-3-28 | Spinn | Belts Cleaned & Dressed | | | | 1.50 |
| | 6-5-28 | S-F56 | 31 ft. 3" double ply belting | 28.95 | .50 | | |
| | 6-5-28 | S-F120 | Repaired broken belt | | | | .50 |
| | 6-7-28 | Spinn | Speeds | | | | 2.00 |
| | 6-7-28 | Spinn | Belts Cleaned | | | | 1.00 |
| | | | | 28.95 | .50 | | 5.00 |
| W | 6-4-28 | W-L1-L4 | 16 ft-2" single ply belting | 4.06 | | | |
| | 6-5-28 | W-L5-L116 | 16 ft-2" single ply belting | 4.06 | | | |
| | 6-5-28 | Weave | Motor belts cleaned & dressed | | | | 1.50 |
| | 6-6-28 | " | Speeds | | | | 4.50 |
| | 6-8-28 | W-L1-L2 | Repaired counter belt | | | | .75 |
| | | | | 8.12 | | | 6.75 |
| G | 6-4-8 | Gen | Repaired air compressor belt | | | .25 | 1.50 |
| | | | Total | 53.62 | .75 | .73 | 16.75 |

Fig. 4.

### Motor Record Card.

A motor record card (Fig. 7) has been designed to record the essential data about each and every motor in the plant. All of the entries on the first two lines of the record are taken directly from the motor name

MOTOR RECORD CARD

MOTOR No. 2

H.P. 25 TYPE KT FORM B FRAME ____ VOLTS 550 FREQ. 60 PHASE 3 AMP. 25
SERIAL 4325197 MODEL 8126 POLES 4 SYN. SPEED 1800 FULL LOAD SPEED 1760 TEMP. ____
MAKE G.E. FRONT BEARINGS ____ REAR BEARINGS ____ OUR ORDER No. ____
SHAFT SIZE: DIAM 2 3/8 LENGTH 4'-8" KEYWAY 1/2 X 1/4

| DATE | LOCATION | DRIVING | PULLEY | TEST | REMARKS |
|---|---|---|---|---|---|
| 2-6-26 | Spinning R | 4 frames | 4-10 7/16 | 30 meg | A 4-1-26 |
| 11-28-26 | " R | 4 " | 4-10 7/16 | 100 " | A 5-10-27 |
| 1-20-30 | " R | 4 " | 4-10 7/16 | 100 " | B 1-20-30 |

Fig. 6. Symbol: A, Taken down, cleaned and painted; B, Re-wound; C, Rotor

plate and spaces are provided for the manufacturers' numbers which appear on front and rear bearings of motors. It is highly desirable that this data be looked up and recorded on the card in order to save time when ordering replacements. All motors in the plant are numbered and the number is entered on the card.

The lower half of the card is for the motor service record. The card provides spaces for the date, the location of the motor, equipment being driven and size of pulley. On inspection, repair or transfer, appropriate entries are made on the motor record card. Whenever a motor is repaired, the nature of the repair is indicated in the "Remarks" column.

### Insulation Records and Testing.

When motors are overhauled or inspected the condition of the insulation should be recorded. The condition is found, first, by observation of the windings, noting whether there is any sign of abrasion, cracking, oiliness, etc.; second, by the use of an electrical instrument known as "Meg". A brief description of the Meg may be pertinent:

The "ohm" is the unit of electrical resistance. Insulation is placed on the copper wire to prevent the flow of electric current from the surface of that wire to an adjacent surface; consequently, the electrical resistance of the insulation in ohms, is a direct measure of the efficiency of the insulation. The "Meg" is designed to give an indication of the condition of the insulation in a motor by measuring the electrical resistance of the insulation in ohms. When the insulation fails, the failure generally takes place at some point where the wire making up the windings is grounded against the metal frame of the motor. Consequently, a measure of the insulation value between the coils themselves and the frame of the motor serves as a fairly accurate indication of the condition of the insulation. The scale on the Meg starts at zero; first indication, 10,000 ohms; second, 50,000 ohms, and so on, up to 800,000 ohms. The next indication is 1 megohm, equal to 1,000,000 ohms and the scale continues in megohms up to 100 megohms and a final mark of "Infinity"—perfect insulation. The insulation of a good motor should test over 5 megohms and a test of over 5 megohms shows excellent condition. A motor testing over 5 megohms should run without further attention for six months or a year, barring accident. One megohm shows doubtful condition although this is still a high insulation and the motor may go for months and even years without breaking down. Such a test, however, does indicate that deterioration has taken place and is a danger signal. The motor should be watched closely, and the insulation tested frequently, probably three or four times a year. If the resistance tends to remain at this value, tests may be made at less frequent intervals. On the other hand, if each successive tes shows a lower value than that of the preceding test it is a positive indication that the insulation is deteriorating and that within a relatively short time the motor will fail. It is, therefore, a wise move to remove such a motor from service at once.

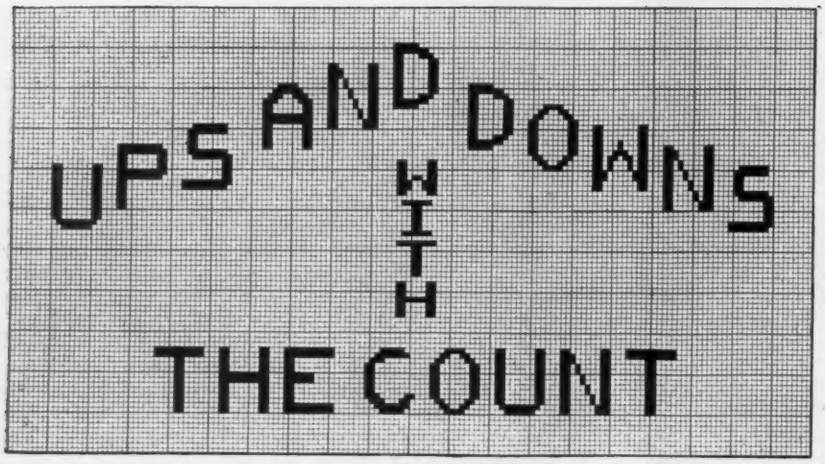
If a test indicates resistance of 100,000 ohms or less, the motor should be removed from service at once and rewound.

The foregoing applies to motors on important drives where the cost of lost production may be considerable. In the case of an unimportant drive such as an individual loom motor, it is probably not worth while to remove the motor from service until it has failed, thus getting the fullest benefit out of the value represented in the winding, providing there is no reason to suppose that the motor has become wet, in which case it often may be saved by a thorough cleaning and drying out.

### To Fit the Individual Plant.

The foregoing program is based on the broad principle of prevention rather than cure. Any system is good only as its results are the best possible. Consequently, it would be entirely out of order to say more about the above-outlined program than that it has proven to be a workable maintenance plan for Kendall Mills, under the conditions to which it has been adapted. Programs need to be whittled and cut to fit the size and the individual conditions and requirements of a mill. In a plant maintenance program, the elements of time and scope of items under inspection, continually must be re-examined in order to serve the objective of maximum efficiency.

[This is the second of two articles by Mr. Hallett, describing the inspection and maintenance program of The Kendall Mills. The first article, in the October issue, described the plan of operating machine inspection.—The Editor.]




## Third of a Series of Articles on Textile Designing

IN THIS THIRD ARTICLE, the author gives a discussion of the classification of weaves and its significance, and goes into detail to discuss the Plain Weave. In the fourth article, to appear soon, he will take up the subject of twill weaves, plain, novelty and fancy, and will proceed later to other types of weave.

In covering this broad subject for the experienced and inexperienced, the author has a big job which he is handling in good shape. If some of his discussions seem elementary just now, stay with him and he'll make it interesting for you later.—THE EDITOR.

### Classification of Weaves and Its Significance.

IN THE DISCUSSION which follows, there will be references to many weaves by names which may not suit your taste. It is not our intention to go into long explanations about names of weaves. Different sections of the country designate weave by various terms. In most cases we shall not call them anything except by the generic term "novelty weaves." We are firm believers in the wisdom of old Bill Shakespeare who used to be gardener and boss-weaver for the Tudor family in England. He used to say "What's in a name? That which we call a rose by any other name would smell as sweet." That which we call a twill by any other name would look as sweet. We realize that it is rather nice to be able to converse fluently and to designate weaves by highly technical and specialized terms. But if you want that, why just buy yourself a little handbook which will give it to you—personally we never did go in for it much. There are a few fundamental weaves which are popular and important enough for names to be advisable; viz, plain, twill, satin, rib, basket, and leno. While this statement is not rock-ribbed, most other weaves are modifications or combinations of these six.

Inasmuch as you are now supposed to know how drawing-in drafts and chain plans are made, we will hereafter show design, drawing-in draft, and chain plan all in the same figure. Let us suggest that you study drafts and plans thoroughly before you go on further to the study of special weaves.

### Similarity Between Dobby and Jacquard Work.

The principle of drawing-in drafts and chain plans is the same for all work under the sun. In Jacquard work the bar in the chain plan is replaced by the harness card, and the peg in the bar is replaced by the hole in the card. Each end is drawn through a mail eye or heddle on a twine cord, then the cords which "work" together are collected and tied to one hook, which is the equivalent of the harness shaft in the dobby loom. This observation is not intended as an exhaustive study of Jacquard weaving—at this point the whole idea is to impress you with the importance of getting a thorough comprehension of drawing-in drafts and chain plans. You might have the most remarkable design in the world, but if you could not put it in the cloth you wouldn't get many offers as designer.

### Plain Weave.

The plain weave is the simplest and strongest of all weaves. The strength, tightness, and firmness of a weave depend on the number of interlacings of warp ends and filling picks in a given area. The strength is increased as the number of interlacings is increased. Consequently, if we have the same number of ends and picks per inch and the same grade and counts of yarn every time, the strongest weave that we can get is the plain weave. No one can ever invent, discover, or develop a stronger weave than the plain weave, because the number of interlacings cannot be increased. Every end interlaces with every pick, and vice versa. If, however, we wish to make a *heavy* or a *thick* fabric, that is one with much distance from face to back, we use a twill or a satin weave or may even make a double or triple cloth. The reason for this is that a plain weave admits of *less* threads per inch than any other weave, due to the space consumed by the interlacings of warp and filling.

Due to the simplicity of the weave, its strength, the fact that it can be made on cam, dobby, or Jacquard looms, the brevity and ease of construction for drawing-in hands and chain builders, and the number and variety of uses to which the weave can be put make the plain weave the most popular and the most widely used in the world. We believe that it can be

said without fear of successful contradiction that the plain weave is always used unless there is a specific reason for employing some other weave. Not only is this weave suitable for use alone as the only weave in a fabric, but it is also widely used in combination with other weaves to give different effects to different parts of the same elaborate design. You could write all day simply naming the fabrics which employ the plain weave. We list only a few, and as they are written just as they come to mind, many of comparative importance will doubtless be left out and many of relative insignificance be mentioned: Sheeting, print cloth, broadcloth, gingham, voile, organdie, muslin, slip cloth, shantung, crepe, and lawn are among the more familiar examples of this weave. The plain weave has two ends and two picks to the repeat. The odd ends weave opposite to the even ends, and the odd picks weave opposite to the even picks. By "weaving opposite" is meant that when one thread is up the next is down. Fig. 4 shows plain weave with drawing-in draft and chain plan.

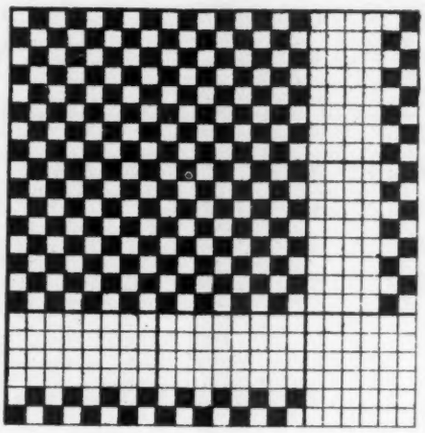


FIG. 4
DESIGN
DRAWING-IN DRAFT
CHAIN PLAN
FOR
PLAIN WEAVE

We had prepared a series of samples showing some of the best examples of the use of plain weave in various fabrics. However, we were advised by the Editor of COTTON that they would not photograph sufficiently well to show the desired effects. Hence we will try to describe a few fabrics making different use of the plain weave.

The first samples were for beach pajamas. The cloth for both trousers and coat are woven exactly the same, but the trouser material was bleached in the piece and used pure white, while the coat was printed in three colors with stripes and circles. This gives the suit the appearance of being made from two different types of cloth.

Then there is Shantung. This is plain weave, but the yarn is very irregular, thick and thin in places. Shantungs were originally all-silk but are now reproduced in cotton and the synthetic fibers. Shantungs are usually either printed in the piece or dyed.

What are called "end-and-end" effects are very good, especially in fine broadcloths. This means that we have one end of colored yarn and one end of white yarn throughout the warp. The filling is all white.

Ginghams and plaids are familiar to everyone. They are combinations of white and colored bars of various widths running both warp and filling ways. Both plain and twill weaves are used in plaids.

Single coarse yarn or two-ply cords are often used with plain weave to outline a colored stripe or to form checks.

Another good effect is produced by printing the yarn before weaving. This makes the colored portions of the yarn occur in random arrangement in the woven cloth and gives a pleasing result.

Some of the best recent effects in plain weaves have been produced by cross-dyeing. This means combining two or more classes of yarn in the same fabric and then dyeing in the piece. For example, we might have cotton, rayon, and Celanese in the fabric and all in the grey. Then we can dye the Celanese one color without affecting the rayon and cotton. Then we dye the rayon and cotton without affecting the previously-dyed Celanese. The cotton and rayon will dye the same color, but the rayon will dye a much deeper shade than the cotton and will have higher luster.

Seersuckers, moires, airplane fabrics, and crepes are amongst our other popular examples of plain weaves.

This discussion of widely different treatments has been given in the effort to demonstrate how different "designs" may be made on a plain loom. With the aid of dyed yarn, printed yarn, different character or class of yarn, piece dyeing, piece printing, resist printing (a form of piece printing), etc., many odd and attractive effects may be produced. This is quite often done at considerably less cost than if the "designs" had to be woven on a dobby or Jacquard.

It is quite an advantage for a mill to be able to make only a few constructions and to weave only plain goods. The merchandising situation is much improved. The mill may sell the same cloth to a number of converters for widely different purposes. One may bleach it for shirtings, another may piece-dye it for dress goods, another may print it for summer chair-covers, and so on. In this way each converter selects his own designs and colors, and the mill is not left at the end of the season with a lot of undesirable shades and weaves which must be sold at a sacrifice.

Of course the great draw-back in such an arrangement is that there is so much competition in the plain-goods market that unless a mill has a good name, a good following in the trade, or can develop novelty yarns or highly specialized fabrics, some poor misguided fool will likely underbid and deprive other mills of a legitimate profit while unknowingly running at a loss to himself.

Fortunately for designers, everybody is not satisfied with plain weaves and all goods can't be so produced. So we will forget about plain goods for awhile and get deeply and briskly into the middle of dobby designing in the next article in this series.

# CURRENT TOPICS

## *Are More Definite Contracts Possible?*

THE CO-OPERATIVE EFFORTS of the textile industry to date are commendable and the attainment of their objectives is necessary for the establishment of the cotton-textile industry on a sound basis. There is one phase of the industry to which sufficient co-operative effort has not been applied and upon which the success of all other co-operative endeavor must be founded. It is the relationship between the manufacturer or seller and the buyer of yarn and cloth.

Following the drastic decline in the price of cotton the majority of southern mills has been forced to endure unjust hardships. They are

1. Cancellations because of complaints of orders taken at higher than present prices.
2. Postponement of deliveries of such high-priced orders, in many cases being forced to ship against more recent and lower-priced orders of the same description.
3. Cotton purchased against the high-priced orders being shipped to the mills order notify.
4. Necessity of continuing operations to some extent to keep the labor dependent upon the mills from actual want.
5. Tying up an enormous amount of capital in manufactured goods sold in good faith and in cotton bought against same.

The inevitable result is that many mills are in straitened circumstances and a few have been forced into bankruptcy. This perennial necessity of taking all the risk and having to finance the middleman's operations cannot help but weaken and eventually destroy the cotton-textile industry as it exists today, i. e., in the form of comparatively small, independently operated units.

Cotton is purchased by the mills on very definite and binding contracts. These contracts are enforceable by law. The greatest need of the mills now and for the future is that of a set of rules and regulations governing the sales of their manufactures, such rules to be as definite and enforceable as those which control the sales and purchase of the raw material.

In every pound of yarn spun there is some variation in count, strength, and diameter and the buyer can always find defects if he is so minded. Many complaints are justified, but which ones are and which are not can be determined only by an arbitration board established for the purpose of making such decisions and having definite standards and limits for every class of goods.

There are many buyers of textile products who will fulfill their contracts at any cost. By establishing these sales contracts on a definite, enforceable basis such buyers would be benefitted by the removal of the unfair competition of the unscrupulous buyers.

From the standpoint of market stability the effect would be appreciable. The knowledge that yarn and cloth contracted for must be taken within the time stipulated would undoubtedly retard the tendency to force mills to sell at ever-decreasing prices whenever the raw material market showed signs of weakening.

The Cotton-Textile Institute, The United States Institute for Textile Research, the Association of Cotton-Textile Merchants, and the manufacturers can make no better co-operative accomplishment than to

1. Determine by co-operative research and set forth by grade the requirements of all descriptions of cotton sales yarn and cloth.
2. Define the matter of delivery and establish limits to which same may be delayed.
3. Incorporate the definitions of grade and delivery into an enforceable, standardized contract.
4. Create an arbitration board for the settlement and enforcement of complaints, claims, and disputes.

This is not advocated as an easy accomplishment but when an industry is fighting for its life, in its present form, it cannot afford to forego a task because it is difficult.

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## *Talk of the Month*

THIS FALL has been a period of contrasting conditions, with disappointments offsetting many auguries of better times for the cotton industry. "At last the sun is breaking through the clouds which have hovered over the cotton textile industry for seemingly unending years, and which were gathered into storms of threatening proportions by the business disturbance affecting all industry this past few months," said the Boston News Bureau early in the fall. The basis of this favorable view was the prospect of elimination of night operation by women and minors under 18 years of age.

Since the margin of overproduction in cotton has been comparatively small, it is not surprising that one such move has been hailed as a life-saver for the industry. The movement, moreover, is accepted as reaching beyond the confines of the United States. No industry is more widely universal than cotton manufacture and Norman S. Pearse, secretary of the International Cotton Federation, visiting this country recently, expressed the opinion that the new movement would prove a great benefit to the textile industry in the outside world. "Anything that is done to control the output of the mills of the world is certain to be helpful to everyone," he stated.

**Light Through the Mists**

BRIGHT DAYS and dark have their sequences in business as in nature. The meteorologists study the weather for signs and portents of the future. Knowledge is accumulated from the past and the present and the future is predicated thereon. But the mists and the storms continue and the chief virtue in

the forecasts is to mitigate as much as possible the severities of weather encountered by providing measures for carrying through them. The difficulty in the long storm which beset us a year ago has been that the general symptoms were forecast well enough, but the duration and extent were not clearly indicated. The fact that the end did not come when it was expected accentuated the depression.

One dependable ray of hope cited at the start of the last quarter of this year—in the face of indications that industry still was in a period of disappointing hesitancy—was that the 1929-1930 depression is not so severe as that of ten years ago. The finding was made by the National Conference Board, on the basis of charts which are reported to show that the "antecedent inflation before the recent drop was far from being so extreme as in the unusual conditions which preceded the drop in 1920. As the present depression is less severe, there is good ground for hope that it will not be so prolonged as that of ten years ago."

SUCH COMPARISONS are undoubtedly encouraging, nevertheless the false hopes that were engendered early in the year by optimistic forecasts of quick emergence from the depression have had their unfavorable reaction. The same recent report declared that the business situation baffled exact understanding. For this circumstance was blamed "an undercurrent of feeling in the business world that the situation is worse than the newspapers seem willing to admit. This is in part a reaction against the factitious optimism which, in the beginning of the decline, was sponsored by high authorities, both public and private."

**False Hopes and New Hopes**

Against this, and the resultant delayed confidence in a turn of the tide, we may figure that the business world will be slow also to give credence to the early symptoms of a better situation. Thus the upward movement probably will be considerably under way ere manufacturers and distributors will fully sense the condition. This, of course, will be more true of manufacturers and secondary distributors, since the orders for replenishment of retail stocks will not begin to accumulate in normal volume until the consumer demand has begun to show itself of good proportions. The long period of sub-normal buying certainly should soon be producing a strong reaction in all directions. Yet a short look backward will be a surer guide to the trend than a look forward, until orders have begun to give manufacturers something definite on which to figure ahead.

IN ONE PARTICULAR, there has been plenty of reason for pause all along the line, and that is the disastrous experience of the world with raw materials. While 1920 was worse than 1930 on the whole, it was not so in raw materials, witness the settling of prices to levels never before known in some cases and to pre-war bases in many others. It may be possible to predicate the future on the past, for the long run, but special circumstances upset the dope over the short range of developments. Here was one of the baffling turns of the 1929-1930 depression and it is no wonder that, with raw materials steadily declining until they appeared to have lost all value, buyers could not see their way clear to looking ahead.

**Raw Materials vs. Processed Articles**

In this state of affairs, some economic observers have been looking to raw materials as the basis for expectations of change. But with lack of demand accentuating the collapse of values in raw materials, it is hard to see how one could expect a turn upward therein to set the ball rolling in industry. The more reasonable expectation seems to be that raw materials will recover only as demand for articles processed therefrom. In fact the idea is gaining ground that the time is at hand, or approaching, when processed articles will lead the way and the domination of raw materials will cease. In fact, it could hardly be that the influence of raw materials should continue to control the situation, since their prices in many cases have dropped below cost of production.

WHERE THIS IS TRUE, manufactured goods such as yarns and fabrics must be sold on their own merits. The encouragement in this situation is that the cotton industry has put itself in a healthy position to face buyers so soon as demand approximates or reaches a normal volume. The actual passing of hundreds of thousands of spindles, the curtailment of the mill schedules on the remaining equipment, to say nothing of the prospective adjustment of the industry to day-time operation as the normal, and various co-operative activities have created a condition wherein the seller of goods bids fair to meet the buyer on a proper basis hereafter.

**Goods Selling On Their Merits**

In fact, the proposition has been advanced that it is time for the buyer to beware. Not that sellers are reverting to the days of "caveat emptor," but they figure that the buyer may well beware of continued close buying. Furthermore, in some directions the buyers themselves are sensing a change. They do not find the same sources of supply for some things wanted in cotton textiles and they feel that buying with prices based upon current levels for raw cotton is a safe speculation. Yet they do not find mill agents ready to operate on the current basis for many months ahead. For the sellers realize, too, the prospects of improvement and know that the capacity of the industry is adjusted better than for a decade to the buying which may be expected.

CO-OPERATIVE ACTIVITIES, meantime, have progressed and worked benefit to the industry which will appear more and more as time goes on. The encouraging growth of a cotton-minded sentiment in the country recently led to the announcement by George A. Sloan, president of The Cotton-Textile Institute, that a fund of $250,000 had been authorized for expenditure in 1931 on further advertising and educational publicity in behalf of styled cottons and other kinds. For while "cotton has unquestionably gained new prestige in fashion," having arrived at this point "there must be no let-up among those concerned with style demand if we are to hold and continue the gains already made."

**Becoming Cotton-Minded**

## Institute's Night Work Move Endorsed; Year's Work Reviewed in Annual Meeting

**Sloan is Re-elected as President.**

COTTON MILL EXECUTIVES attending the annual meeting of The Cotton-Textile Institute at the Biltmore Hotel in New York City on October 15th, went on record overwhelmingly favoring the elimination of night work for women and minors. Nearly 150 cotton manufacturers from textile centers throughout the United States were present. From the standpoint of spindles represented the meeting was one of the most largely attended that has ever been held under the auspices of the Institute.

The wording of the resolution on this point, originally recommended to apply to the hours between 9 p. m., and 6 a. m., was altered and the endorsement applied to the elimination of work for women and minors under 18 years of age between the hours of 7 p. m., and 6 a. m.—which automatically eliminates the previously anticipated possibility of two 7½-hour shifts under the previous schedule.

The expression of opinion on the proposal to discontinue night employment of women and minors showed 20,975,455 spindles, or 64 per cent of the spindles of the country, favored this new new policy. It is understood that this policy is to be made effective on or before March 1, 1931. Walker D. Hines, chairman of the Institute, who presided during the discussion, emphasized that the new policy represented "one of the most significant steps ever taken by the industry."

At a meeting of the Institute directors, Mr. Hines was re-elected chairman of the board. George A. Sloan was re-elected president; and Henry F. Lippitt of Providence, R. I., and T. M. Marchant, of Greenville, S. C., as vice-presidents. W. Ray Bell is again executive vice-president, and Paul B. Halstead secretary, with Gerrish H. Milliken re-named as treasurer.

Addressing the annual meeting, President George A. Sloan declared that during the past year, "the industry has made definite and distinct progress in dealing with many fundamental questions." He summarized the record of outstanding accomplishments as follows:

1. The focusing of attention on the hours of work and the lack of uniformity in running time for labor and machinery.
2. The recommendation to eliminate night work for women and minors which, at the outset, has the spontaneous support of more than twenty million spindles—a movement hailed throughout the nation as the most constructive step ever taken by this industry.
3. A better balancing of producetion with demand.
4. Adoption of improved cost procedure by additional mills, with combined annual operating economies sufficient to cover the cost of maintaining the Institute.
5. Completion of the most comprehensive study of depreciation ever conceived in the cotton textile industry.
6. The success with which public attention has been directed to the use of cotton.
7. The widening of the scope of Institute activities including the formation of the General Arbitration Council, and the initiating of steps leading up to the formation of the Textile Export Association.

## National Association Holds Meeting at Poland Springs; Floyd Jefferson Speaks

**Ward Thoron Elected President, and Offers Suggestion that Southern Mills Adopt 55-Hour Week as Maximum.**

WARD THORON, treasurer of the Merrimack Mfg. Co., Lowell, Mass., was elected president of the National Association of Cotton Manufacturers at the annual meeting at Poland Springs, Maine, October 10th and 11th. Irving Southworth, agent of Pacific Mills, Lawrence, Mass., and E. N. Hood, treasurer of Pequot Mills, Salem, Mass., were named vice-presidents, and C. F. Broughton, treasurer, Wamsutta Mills, New Bedford, treasurer.

Floyd W. Jefferson, of Iselin-Jefferson Co., and chairman of the Textile Export Association of the United States, spoke to the convention on "Export Opportunity in Cotton Textiles," declaring that the cotton textile industry will never realize the full benefit of export markets except through group action involving combination and co-operation. Mr. Jefferson suggested large scale mergers as a means for organizing the activities of producers and sellers "who now are completely at the mercy of well-conceived, well organized groups who buy textile products and pass them along in orderly fashion to the ultimate consumer who is willing to pay a fair price." What a simple matter such a merger ought to be at this time, he declared. "The entire cotton textile product of the United States is estimated at one and a half billion dollars. There are 20 selling agencies in Worth Street whose combined volume is five hundred million, and there are twenty direct selling eastern and southern mill units whose volume would equal that of the twenty commission houses. If these important units were realigned so that there would come into existence counterparts of the United States Steel Corporation and the Bethlehem Steel Company, and if the participating interests were permitted to exchange, on a fair basis, their present securities for stock in well-organized holding companies, the results would be astounding."

Lincoln Baylies, retiring president, declared that "curtailment has been effective this year," but that, "the great test of the curtailment of the present year is now at hand. If the mills will hold to their curtailment program and if the mills throughout the North and South continue to maintain production on a reasonable and sensible parity with demand, better business will be the reward. If, however, the present curtailment is reduced at the first sign of better business, we will find ourselves as an industry entering the new season under an even greater disadvantage than was the case a year ago." Harford Powel, Jr., Boston advertising man, William J. Fortune, Boston banker, and Prof. Brooks Quimby, of Bates College, were other speakers at the convention. A style show was held, under the auspices of the Cotton-Textile Institute.

Mr. Thoron, the new president, speaking at the banquet on Saturday night which concluded the convention, declared for the elimination of night work for men as well as for women, and the adoption by southern mills of 55 hours as the maximum work week, as means of controlling production.

# New England Mill Situation

October 18, 1930.

ASIDE FROM a seasonal increase in business, conditions in the New England cotton goods industry have shown little change during the past month. Curtailments continue effective on about the same scale, and while here and there demands for goods have caused individual plants to step up production a little, the total out-turn of goods is reported to be of about unchanged proportions. The prices that manufacturers have been able to secure have fluctuated to a degree, some cloths having been reduced to very low levels to secure orders running to the end of the year, while others have been a little more firmly held and mills of good repute have been able to secure a slightly better return for their product. Prices generally continue on an unprofitable basis, although some manufacturers, notably those equipped to produce fancies and specialties, have been getting away from plainer fabrics and have insisted upon some margin of profit for their finer products. This, in a number of important instances, they have been able to secure.

Thus a prominent manufacturer in Southern New England recently declared his position as one based upon maintaining a certain percentage of his looms operating, and running more of them only in case business at a fair profit appears. To maintain this percentage, he states that he has found it necessary to occasionally concede a point on price, but on some classifications of merchandise on which he has been sold up to this basis of operation, he has declined further orders except at a premium. His stand is similar to that taken by other concerns, and the tendency has created a distinctly firmer tone in fine goods markets. The policy is in line with the current stabilization plans in the industry which have been given impetus by General Cotton Corporation's acquisition's of two mills previously regarded as highly competitive in their relations with other producers, and by the conscientious efforts put forth by important leaders to keep production of fine goods in line with current and probable future demands.

Meantime, much progress appears in relation to elimination of night running in the fine goods industry. Currently very little night running is said to exist, but further than this many important New England interests have thrown their support to the Cotton Textile Institute's plan for progressive elimination of night work of women and children in the nation's cotton mills, which is regarded as virtually eliminating all night work except in emergencies. Eastern as well as southern manufacturers reported themselves favorable to this plan and in many cases signed both the ballots of principle and the more specific declaration of intended policy on this problem which was advanced at the fifth annual meeting of the Cotton Textile Institute in New York City recently.

### General Cotton Corporation.

The past fortnight has seen the acceptance by the stockholders of the Davis Mills and Lincoln Manufacturing Company, both of Fall River, Mass., of the offer made by General Cotton Corporation to acquire them by exchange of securities. General Cotton Corporation has since incorporated them under the new names of Davis Mills Corporation and Lincoln Manufacturing Corporation, although the possibility that the two mills might yet be merged into one concern known as the South Watuppa Corporation has been suggested. Capitalization of each corporation is 5,000 shares of no par value. Officers of each corporation were given as Osea M. Shaw, president; John G. Ross, treasurer; and James T. Mountz, clerk, all of 50 Federal street, Boston, Mass.

Meantime General Cotton Corporation is understood to have other mill purchases under consideration, a number of concerns having been mentioned, although none definitely. General Cotton is further planning a formal organization. John Sullivan of the Tabor Mills, has been invited to become president of the corporation, but due to other duties has declined. The Lincoln Mill, meantime, has been shut down for an indefinite period, but denial has been made that either of the two mills would be permanently closed.

Reports have been current that Berkshire Fine Spinning Associates are planning to locate their operating offices in Fall River. The Associates are also planning to build new transformers for the supply of power to the King Philip and Parker Mills units in that city.

Disputes on the wage scale of weavers at the Arkwright Mill No. 2, formerly the Chace Mill, Fall River, have been amicably settled, readjustment placing wages at the level prevailing a few months ago when an initial readjustment on some types of goods was made.

Suits of the Luther Mills, Fall River, for abatement of taxes, has resulted in a settlement granting abatements to the mills including interest of $15,729.08 for 1927, $11,546.06 for 1928, and $9,854.48 for 1929. The awards were based on $12 per spindle valuation. This figure is lower than that decreed by the city assessors, although higher than mill counsel held it should be.

In the case of Lincoln Manufacturing Company, an agreement was reached on a basis of $13.60 per spindle, the 1927 tax being reduced from an original figure of $108,167.04 to $42,801.25, including interest allowance. The 1928 tax meanwhile is cut from $91,742.88 so that a refund of $10,361.83 including interest is to be made. The Cornel Mills tax abatement cases are still pending. Sharp reductions of 1927 and 1928 taxes of the Richard Borden, Davis, and Pilgrim Mills have been found by a commissioner, $9, $12, and $13 per spindle values being found on the respective plants, and the findings are currently before the superior court. Narragansett and Charlton claims are still before the commissioner.

Nashua Manufacturing Company has established its own selling offices, located in the 40 Worth street building in New York City, and has established its own sale offices in Boston, Chicago and Los Angeles. Meantime a partnership under the name of Amory, Browne & Company has been formed by John W. Bird, Benjamin F. Meffort, Jacques Bramhall, and George W. Henderson, and the partnership will be selling agents for the Wauregan Company, Danielson, Conn.; the Quinebaug Company, Danielson, Conn.; Conestogo Mills, Lancaster, Penna.; Gossett Mills, Anderson, S. C.; Cleveland Worsted Mills Company, Cleveland, Ohio; United Hosiery Mills Corporation, Chattanooga, Tenn.; Ideal Hosiery Mills, Maryville, Tenn.; and Pitman Manufacturing Company, Laconia, N. H.

Pepperell Manufacturing Company is reported to be enjoying satisfaction in its sale of Peerless sheets and pillowcases, and the fine goods output of its Fall River plant, including lawns, marquisettes, and other goods is attracting attention in the markets. Long staple combed cottons are used in the New Peerless line of bed linen. Recently Pepperell has completed a review of the Far Eastern markets which has been of considerable interest.

As a consequence of lack of orders and of the depressed state of the motor trade the Firestone Cotton Mills in Newburyport, Mass., makers of tire fabric, has been shut down for a month.

Cotton freight rates have been a matter of considerable interest to the trade, revisions having recently been made in the New York to Chicago basis, with rates of the New York Central for Utica to Binghampton, N. Y., revised, and freight rates on textiles reduced on the Maine Central and other New England roads. On goods manufactured in Northern New England a considerable saving results on shipments to Chicago, St. Louis, and other important distributing points.

Rayon coat linings have been an important item in recent business in New England, and among other mills the Pacific Mills plant at Lawrence, Mass., has been well occupied on these and other goods. Night and day operation for several weeks was reported in the weaving department of the Lawrence plant. Pacific Mills are tearing down an unused building adjacent to their plant in Dover, N. H., in order to save on taxes.

In the industrial exposition accompanying Boston's tercentenary observance Merrimack Manufacturing Company of Lowell, Mass., has been an exhibitor of high grade moleskins, velveteens, Jacquard velours, corduroys, khakis, and other goods, and Pepperell Manufacturing Company, Pequot

Mills, and Wamsutta Mills have exhibited bed linen to advantage.

Lowell Silk Mills, with a capacity of 800 employees, is reported employing 600, and officials are confident of increasing business in the silk trade.

Lowell, Mass., in keeping with Fall River, has revised valuations of textile plants. The Boott Mills, manufacturers of towels and other goods, assessed at $1,201,500 on machinery and $730,950 on real estate in 1929, have been assessed for 1930 at $1,116,000 on machinery and $733,250 on real estate. The Merrimack Manufacturing Company's plant there had a total valuation of $4,605,550 in 1929, and this year the figure has been reduced to $4,583,800.

Harold B. Mowry, resident manager of the Sterling branch of the United States Finishing Company for many years, and associated with the company since 1886, has retired, and has been succeeded by his son, Harold B. Mowry.

Oswego Rayon Corporation, underwear mill in Oswego, N. Y., is following a new merchandising and advertising policy for the promotion of finer types of rayon undergarments.

# Cotton Comment

**New Orleans, October 16th, 1930.**

DURING THE PERIOD under review the cotton market declined to the lowest price level touched in 15 years or since September 10, 1915, Middling in New Orleans having sold down to 9.78 on September 28th of this year, due to larger crop ideas, hedging, liquidation, October tenders, weakness in wheat and the depression in Wall Street. Subsequently the market recovered somewhat, but met with free offerings on bulges owing to hedging, the unsettled state of the grain and stock markets and the political troubles in Germany and Brazil. However, there was some evidence of trade and speculative buying of late, there was a fairly good demand for spots, and exports continued comparatively liberal, while advices from China and the goods markets were encouraging.

At the recent cotton conference in New Orleans several specific declarations were made in a resolution adopted, of which some were to the effect:

"Cotton at the present level is below the cost of production.

"It is a safe commodity for investment.

"Spinners may now well be urged to anticipate their future requirements, not only for the present, but for at least a portion of the season 1931-32 and even periods beyond, in view of the acreage reduction that must follow the severe decline in prices that has taken place.

"There is an abundance of money available through the banking institutions for liberal advances on cotton at the present price.

"The farmer should be counselled to go ahead with the harvesting of his crop before the elements damage the quality, but to sell as little as possible at the present level, to store the remainder in a dry place and hold for better prices, also, to make a very substantial reduction in cotton acreage for next year."

Based upon Secretary Hester's carry-over figures and the government crop estimate, the world's indicated supply of American cotton for this season, exclusive of linters, is about:

| Bales— | This Season | Last Season |
|---|---|---|
| World's carry-over, August 1st | 5,939,000 | 4,395,000 |
| Indicated crop, government estimated | 14,486,000 | 14,828,000 |
| Season's indicated supply | 20,425,000 | 19,223,000 |
| Middling in New Orleans today | 10.10 | 17.75 |

Of the carry-over of American, the Cotton Stabilization Corporation is credited with holding about 1,300,000 bales, which, it has been said to effect that it is not to be sold except at the price at which loans were made on same, which is probably several cents higher than prevailing quotations, virtually eliminating that quantity of cotton, about 1,300,000 bales, from the supply until prices advance to warrant its disposal, and if any part of the same is sold it is to be replaced by the purchase immediately of an equal number of bales, so that the total holdings will remain unchanged.

**ASSOCIATION OF COTTON TEXTILE MERCHANTS OF NEW YORK SEPTEMBER STATISTICS.**

| Yards— | September 1930 4 Weeks | August 1930 5 Weeks | September 1929 4 Weeks |
|---|---|---|---|
| Production | 182,383,000 | 218,815,000 | 268,611,000 |
| Sales | 291,980,000 | 235,272,000 | 371,485,000 |
| Shipments | 232,975,000 | 231,348,000 | 287,628,000 |
| Stocks | 392,406,000 | 442,996,000 | 345,043,000 |
| Unfilled orders | 285,427,000 | 228,422,000 | 438,952,000 |

**GOVERNMENT REPORT**

| As of October 1st | This Year | Last Year |
|---|---|---|
| Condition | 53.5 | 55.0 |
| Indicated yield per acre, lbs. | 154.7 | 155.0 |
| Indicated crop, bales of 500 lbs. gross weight | 14 486,000 | 14,828,000 |
| Ginned to Oct. 1st, counting round as half bales | 6,304,608 | 5,903,265 |

**CENSUS REPORT**

| United States—Bales — | This Season | Last Season |
|---|---|---|
| Consumption lint, September | 394,321 | 545,834 |
| Consumption linters, September | 62,798 | 81,894 |
| Consumption including linters, September | 457,119 | 627,728 |
| Consumption lint, 2 months | 746,656 | 1,104,588 |
| Consumption linters, 2 months | 119,808 | 165,537 |
| Consumption including linters, 2 months | 866,464 | 1,270,125 |
| Mill stocks September 30th | 967,936 | 790,772 |
| Stocks in pub. stg. & whs. Sept. 30th | 5,247,525 | 3,208,546 |
| Stocks in mills pub. stg. & whs. Sept. 30th | 6,215,461 | 3,999,318 |
| Active spindles during September | 26,087,004 | 30,035,470 |
| Active spindles during August | 25,873,978 | 30,230,386 |

**TOTAL AVERAGE RAINFALL TEXAS, IN INCHES.**

| Year— | 1930 | 1929 | 1928 | Normal |
|---|---|---|---|---|
| September | 1.92 | 2.74 | 3.00 | 2.88 |
| Nov. to Sept. Inclusive | 23.64 | 29.17 | 24.86 | 28.48 |

Spot sales at reporting Southern markets thus far this week total 214,397 bales against 277,510 for corresponding week last year.

Compared with last season, exports from the United States thus far this season, exclusive of Canada, total 1,694,597 bales against 1,401,295.

**SPINNERS TAKINGS OF AMERICAN COTTON.**

| Aug. 1st to Oct. 10th Bales— | This Season | Last Season |
|---|---|---|
| North and Canada | 197,000 | 414,000 |
| South | 625,000 | 870,000 |
| Foreign Spinners | 1,034,000 | 1,085,000 |
| Total | 1,856,000 | 2,369,000 |

**WORLD'S VISIBLE SUPPLY OF COTTON ,OCTOBER 10th.**

| Bales— | This Year | Last Year |
|---|---|---|
| American | 5,794,124 | 3,988,516 |
| Other kinds | 1,795,000 | 1,727,000 |
| All kinds | 7,589,124 | 5,715,516 |

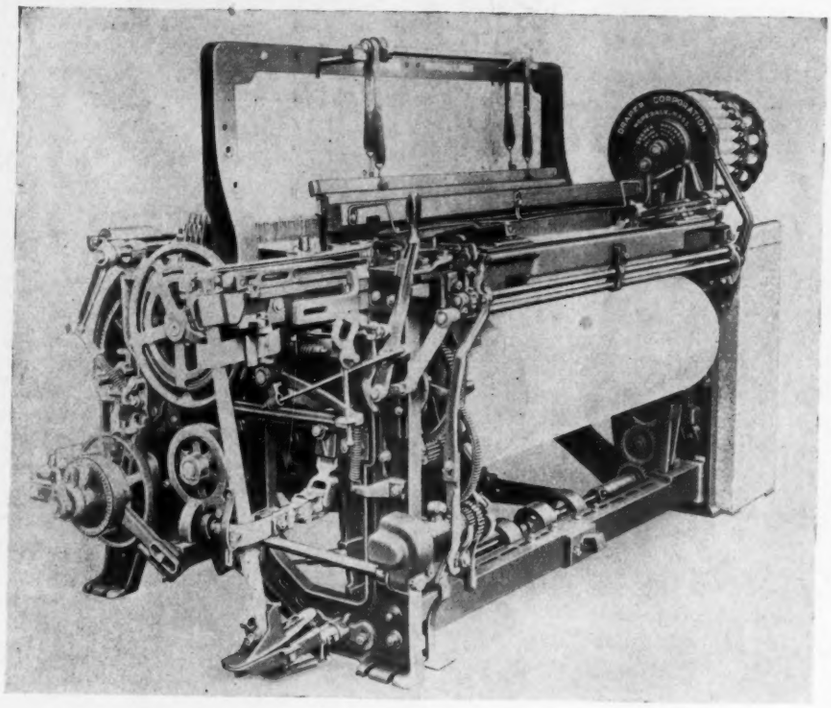
In some quarters there is the belief that the low price for the season has already been witnessed, and that while it is possible for the market to experiece occasional periods of depression, buying on depressions is likely to be advisable, particularly for the long pull, in anticipation of the probability of higher, perhaps much higher prices ultimately. Unlike at this time last year, American cotton is relatively cheaper than India cotton, which is likely to result in a better demand for American at the expense of Indian cotton, whereas at this time last year, the reverse was the case.

As noted in the September textile returns there was some improvement over August returns in sales and unfilled orders, while stocks at the end of September showed a decrease for the month of 11 per cent.

Last season, in the autumn, trade conditions in the United States began to decline and continued to grow worse, which was reflected in the depression that followed in Wall Street, due to the extensive decline in the price of most commodities, causing a shrinkage in the purchasing power of the masses and world-wide depression.

This season, from now on, trade conditions and commodity prices, especially cotton, are likely to improve, as low prices for any commodity, plus cheap money, usually make for larger consumption and advancing prices. Pessimism will probably change to optimism in the not far distant future, especially so far as cotton is concerned.

# New Textile Equipment and Publications



The Draper X Model Loom.

## A NEW DRAPER LOOM.

The Draper Corporation, Hopedale, Mass., recently announced that they had placed the new Model X loom on the market, which represents quite an achievement along the line of looms. They state that before starting the design on this new loom they drew upon the experience of their customers as well as their own, and that they tabulated every real or imaginary weakness known to them or reported by users.

They say they have the following to offer in this new loom:

A rocker shaft that will not wear out so fast, that can be quickly and economically repaired.

A pick shaft less likely to break and easy to take off and put back.

Better frogs that give an easier stop, elimination of sword breakage.

The ability to weave full 41-inch goods on a 40-inch loom, to use larger rolls of cloth, larger yarn beams and larger shuttles.

Anti-friction bearings, Alemite greasing an improved oiling system.

A better bang-off and automobile type of quick-acting brake.

A new friction clutch without end thrust. A stronger, stauncher frame.

The company states that the new X Model has been run at a very high speed experimentally—that two mill installations for test are running successfully at 190 and 200 picks per minute.

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## AIR OPERATED CONTROLLER EQUIPMENT.

The Bristol Company, Waterbury, Conn., recently published Catalog No. 4000, which describes and gives applications of the air operated control equipment manufactured by the aforementioned company. The company will be glad to forward a copy of the catalog to anyone interested.

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## NEW ENCLOSED MOTORS.

The General Electric Company, Schenectady, N. Y., announces a new line of dust-tight, totally enclosed fan-cooled induction motors. These motors are totally enclosed, are equipped with ball bearings in convenient "cartridge" housings and utilize a single ventilating fan located outside the enclosure proper, the company states.

A point stressed by the manufacturer is the fact that the new line provides a totally enclosed motor of the same mounting dimensions, rating for rating, as the standard General Electric open type, horizontal, general purpose motor, from ¾ to 50 horsepower in popular speeds.

It is pointed out that size and weight are minimized in the new motors. The single ventilating fan is located outside the motor enclosure on a short shaft extension and on the end opposite the drive end.

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## ROTARY COMPRESSORS AND DRY VACUUM PUMPS.

Yeomans Brothers Company, 1433 Dayton Street, Chicago, have published Bulletin AC-7100, which contains descriptive material concerning the rotary compressors and dry vacuum pumps of the aforementioned company. The bulletin contains many enlightening facts as to advantages, applications, etc., of this equipment.

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## PONTAMINE DIAZO BLUE NA.

The dyestuffs department of the E. I. du Pont de Nemours Company, Wilmington, Del., announces the development of Pontamine Diazo Blue NA, a direct dyeing color which, when diazotized and developed with beta naphthol, yields reddish shades of blue. It is said to be particularly suitable for the production of navies and, in combination, for a wide range of dark blues and violets. Also, it is adaptable for use on cotton, as rawstock, yarn, or in the piece, and is stated to be extremely valuable for application on pure silk materials. The company states that it is suitable for use in all types of machines and is of particular interest for jig dyeing and padding.

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## NEW CATALOG ON BELTING.

A new catalog of belting, packing, hose, matting and miscellaneous items manufactured by The Diamond Rubber Co., Inc., of Akron, Ohio, for industrial use is just off the press, according to the company.

The company states that an interesting feature of the publication is that the cover and mailing envelope were printed from rubber engravings, hand-cut from sheet rubber manufactured by them. They state also that copies of the catalog pages have been specially produced of correct size and shape for inclusion in loose leaf catalogs carried by distributors' salesmen.

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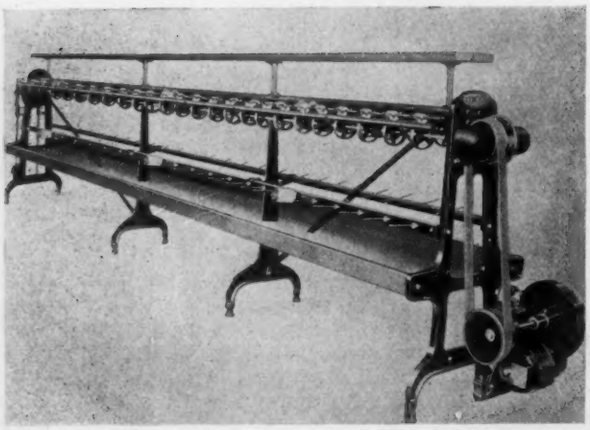
## NEW ATWOOD MACHINES.

The Atwood Machine Company, Stonington, Conn., has just announced the development of a new redraw frame known as the "Advance." The company states this new machine incorporates many new and advanced



Above, the new "Advance" redraw frame; right, the "Ball top" spindle.

engineering features, among which are the following:

Oiless bearings throughout; unit assembly drive; spindle equipped with springs to compensate for vibration due to high speed and unbalanced bobbins; delivery bobbins run either parallel to or at right angles to the machine; improved cam construction to make better wound bobbins; and rigid tubular construction with sturdy bracing. It is pointed out that the machine is available both as single and double deck models.

This company also announces a new spindle they have recently placed on the market, which is known as the Atwood "Ball Top" Super Spindle. The claims made for this spindle are: A blade that will run true and stay straight under the rigid demands of modern textile production; a whorl, machined all over, accurately centered, accurately balanced, cast and finished in Atwood shops; a patented step, embodying advanced principles of lubrication with less frequent oiling and constant and rapid circulation of a large volume of oil, with cool running spindles; a spindle lock, releasing manually, automatically locking the blade in the step, thus holding the spindle while doffing is taking place; and precision bearings, close grained metal and accurate fits insure smooth, easy running and long life.

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## WHITIN PICKING MACHINERY.

Whitin Picking Machinery—One Process Picking, is the name of the new catalog on picking machinery recently published by the Whitin Machine Works, Whitinsville, Mass.

Besides illustrations and descriptive material concerning the picking machinery, the following discussion is listed in the book:

"The mill with low production costs has had and will continue to have a decided advantage over its competitors. One way in which this advantage can be obtained is by modernizing the opening, cleaning and picking departments. By the use of proper opening and cleaning equipment, many mills are able to use successfully one-process picking. With one-process picking, one is assured of yard after yard of even picker laps with the total variation running not over one-half to three-quarters of an ounce per yard. In addition to this advantage, in most cases there is a saving in labor, floor space and power to be gained. At the same time, one-process pickers, because of automatic features, require less attention than the formerly used two or three-process pickers."

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## NEW G. E. LUBRICANT FOR MOTORS.

The General Electric Company, Schenectady, New York, has announced a new grease for ball and roller bearing motors.

The grease embodies all necessary qualities for the proper lubrication of ball and roller bearings and is used in General Electric factories for the initial lubrication of all general purpose motors using these types of bearings, the company states. It is pointed out that this lubricant is being successfully used on ball bearing application with speeds as high as 25,000 r. p. m., and temperature exposures from 25 degrees to 250 degrees F. However, its use is recommended only for the lubrication of motor bearings where the motors were originally grease lubricated.

Some of the advantages claimed for the new lubricant are:

(1) High grade materials are selected for its compounding. (2) It maintains an operating consistency under severe conditions and over as wide a temperature range as will be encountered in service. (3) It allows complete ball and roller motion. (4) There is very little tendency to gum-cake or separate. (5) It contains no free acid or water and will not turn rancid. (6) It has unusual film strength, enabling it to stand severe thrusts and heavy bearing loads.

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## NEW CATALOG OF HUNGERFORD & TERRY.

Hungerford & Terry, Incorporated, Clayton, N. J., have issued a new catalog which represents an illustrated description of the water purifying apparatus manufactured by this firm of engineers, which have been in this business for forty-one years. The apparatus described is designed especially for industrial application. The subject of water filtration is discussed, from the standpoint of coagulation, sedimentation and post-treatment; and descriptions are given of the company's line of gravity filters and pressure filters, and Inversand water softeners. Much helpful technical information with regard to filter plant applications, construction, etc., is contained in the catalog.

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## "ORGANIZATION IN THE COTTON TRADE."

John Heywood, Limited, Manchester, England, have issued "Organization in the Cotton Trade," by Frank Greenhalgh. This book is largely a discussion of costing in the textile mills from an English standpoint. It covers first the conditions in England with regard to cost finding, and provides an outline of what is submitted as a standard costing system for the mills in that country.

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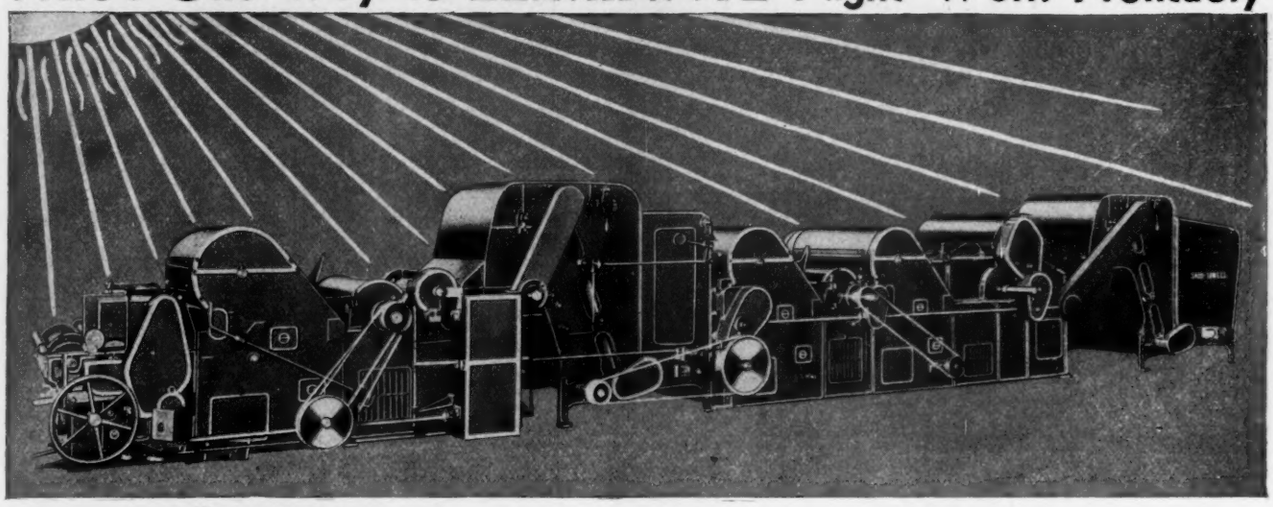
## NEW SIZINGS.

W. A. Scholten's Chemical Works, Limited, Groningen, Holland, have placed on the market three sizing and finishing products known as Textiline W, Textiline WI, and Ultra-Dextrine. The first two named are thin boiling starches, which, it is stated, can be boiled in a more concentrated form than potato flour, Sago, etc. For fine yarns, the company states that they possess excellent penetrative power, with great capability of withstanding long boiling, and greater binding power. It is added that the transparency of their solution make them suitable for colored goods. Textiline W has a maximum solubility of 18 ounces on one gallon. With its use, it is stated, the

# Here's One Way to ELIMINATE Night Work Profitably



## Successful Mill Makes Annual Savings of $5,410 in Labor and Power . . . on a $17,314 Investment . . . Eliminating Night Work with SACO-LOWELL One-Process Pickers

### *Table of Facts*

| | | | |
|---|---|---|---|
| **OLD EQUIPMENT (Night and Day)** | | | |
| POWER | Two 2-Beater Gauge Box Breakers @ 10 H. P. | | 20 H. P. |
| | Three Intermediates @ 5 H. P. | | 15 H. P. |
| | Four Finishers @ 5 H. P. | | 20 H. P. |
| | Day Run | | 55 H. P. |
| | Night Run | | 55 H. P. |
| | Day and Night Opening Room | | 40 H. P. |
| | Total H. P. | | 150 H. P. |
| LABOR | One Breaker Hand | $12.00 | |
| | One Intermediate Hand | 13.20 | |
| | One Finisher Hand | 14.00 | |
| | One-half Opening Hand | 6.00 | |
| | Day Shift | $45.20 | $45.20 |
| | Night Shift | | 50.00 |
| | Weekly Labor Cost | | $95.20 |
| **NEW EQUIPMENT (Day Only)** | | | |
| POWER | Three Model B-1 One-Process Pickers @ 15 H. P. | | 45 H. P. |
| | Day Run Opening Equipment | | 20 H. P. |
| | Total H. P. | | 65 H. P. |
| | LABOR | | |
| | One Picker Tender | $15.00 | |
| | One Picker Helper | 13.20 | |
| | One Opening Hand | 12.00 | |
| | Weekly Labor Cost | $40.20 | $40.20 |
| | Power Saved (85 H. P. @ $30 per year) | | $2,550.00 |
| | Labor Saved | | 2,860.00 |
| | Savings | | $5,410.00 |
| | Investment | | $17,314.00 |
| **NET RETURN** | | | 31% |

ACTUAL savings in labor and power amounting to $5,410 annually are reported by a large Southern mill which replaced a night and day run of Two-Process Picking with three Saco-Lowell Model B-1 One-Process Pickers. (Complete details of the old and new layouts are given at the left with a schedule of comparative costs.)

The total investment in modern machinery amounted to but $17,314, so the net return is 31% annually. The new pickers will pay for themselves in 3 years. On top of this the mill reports that the variation from yarn numbers considerably reduced, that better carding is obtained, that the entire mill is running better.

If you are considering the advisability of abolishing night work, as advocated by leaders in the industry, here is one way to do so at a profit.

**SACO-LOWELL**

MANUFACTURERS OF TEXTILE MACHINERY

147 MILK STREET, BOSTON, MASS.

CHARLOTTE, N. C. SPARTANBURG, S. C. ATLANTA, GA.

use of fats can be considerably reduced. Textiline WI, the company points out, is more transparent than Textiline W and also boiled thinner (solubility maximum 2 pounds on one gallon), and the company recommends it especially for finishing which must contain a large quantity of starch. They state that Ultra-Dextrine can be suitably used with ordinary starches, to produce good results. It is stated that this has a greater yield than ordinary Dextrine, and is more transparent. It is stated that all three products may be boiled for an unlimited time without the loss of strength.

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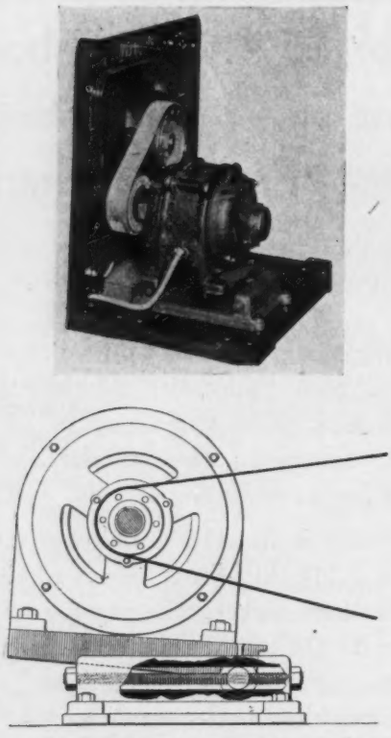
## DUXBAK BELTING ON ROCKWOOD DRIVE.

Charles A. Schieren Company, 30 Ferry Street, New York City, are distributing literature with regard to the



Schieren Belting Applied to the Rockwood Drive with Hinge Base.

application of their Duxbak belting on the new Rockwood short center drive. The application in this drive includes an automatic take-up, with regulated belt tension under all loads. The hinge base arrangement, shown in the accompanying illustration, it is explained by the company, enables the belt to take care of all loads automatically up to the full capacity of the motor without slipping or burning the belt. Six standard size bases care for motors from ¼ to 50-hp.; large size drives are built to order.

## AMERICAN TOOL LINK SUSPENDED CENTRIFUGAL EXTRACTOR.

American Tool and Machine Company, Hyde Park, Boston, Mass., have announced a link suspended centrifugal extractor for use in the textile industry and other applications. The machine is made in belt and motor-driven type, with 40, 48 and 60 inch diameter baskets. In this machine, the basket is mounted on a stiff spindle of especially selected steel. The curb is made of boiler plate with welded seam riveted and caulked to a cast-iron top and bottom. It is suspended in three stands mounted on a self-locating base permitting the handling of the machine as a unit. The suspension is through steel links with spherical steel ball ends resting in bronze bearings. It is pointed out that the special design of these lengths provide a minimum of vibration being transmitted to the foundation. The eccentric arrangement of the link stands is on attached motor drives. This, the company explains, is to insure uniform distribution of the load on the links. Heavy duty Timkens bearings are used, and lubrication of the machine is by use of Alemite system. The brake is of the band type asbestos lined, designed for quick operation. It is self-locking, with positive release, and a specially designed rivet is used for attaching linings. A vertical motor is mounted on an adjustable plate so arranged that slack may be taken up in the Gilmer V-belts used for driving. Motor or belt drives are available to operate through friction clutches or direct connection as desired. Adequate guards or covers for the opening in the curb are available in cast metals, fabricated metals or wire screens. Approved frictionally operated speed-guard interlocks are supplied.

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## A MECHANICAL WARP STOP MOTION HARNESS.

Steel Heddle Manufacturing Company, 2100 West Allegheny Avenue, Philadelphia, Pa., have announced the development of a new mechanical warp stop motion harness, which is now being marketed. This is described as a simple device by which, if a warp thread should break anywhere between the beam and the reed, the heddle carrying that particular warp end will drop, locking the heddle bar and stopping the loom instantly, the heddle serving as a drop wire. The device consists of specially designed heddles with the necessary oscillating mechanism and knock-off control. The harness frame with the stop motion mechanism is self-contained, ready to attach to the loom. The advantages pointed out by the company for controlling the stop motion at the heddle instead of back near the warp beam, include the prevention of floats and pick outs, materially increasing production and improving quality; it is also pointed out that this method eliminates tension or friction and wear on the warp threads, and obviates the threading or entering of a second eye.

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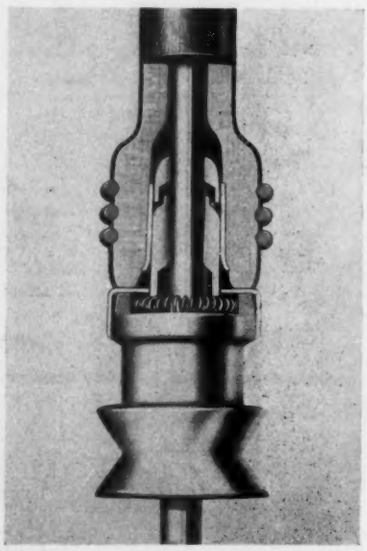
## STIMPSON CENTRIFUGAL CLUTCH SPINDLE.

Draper Corporation, Hopedale, Mass., recently placed the Stimpson centrifugal clutch spindle on the market, which they state will function as long without wear or need of repairs as any solid whorl spindle. They say the Stimpson clutch will outwear the blade of the spindle, and point out the proof of this is found in the lasting qualities of a clutch used continuously for 125 years.

To prove the wearing qualities of this clutch the company rigged up a laboratory test to get the doffing wear of the clutch after years of mill service. Before starting the test, an estimate was made of the average number of doffings per spindle per year when spinning 36s yarn. A careful count of the doffings was kept, and the test was to stop when the clutch showed signs of wear or need of repair. When the number of doffings equalled the fixed equivalent of 125 years of operation, a careful examination disclosed neither signs of wear nor any other structural weakness of the clutch, it is explained.

The company describes the new clutch as follows:

The segments that drive the bobbin press upon the blade. The clutch and blade are always concentric, doing



Centrifugal Clutch Spindle.

# If you want to turn out more work put the G·T·M· on the job

The G.T.M.—Goodyear Technical Man—helps turn out more finished jobs. And at lower cost. He studies all work conditions. He spots reasons for delay or expense. He applies a sound remedy. Whether it is movement of goods, engine-power, air, or liquids, by accurate specification of Mechanical Rubber Goods to need he insures an efficient operation. His wide experience helps you to smoother, faster production and profit.

Throughout the textile industry are G.T.M.-specified economies. He is an expert in the field. He has effected outstanding savings with Goodyear Thor Belts—silver-duck structure and rubber cushioned between plies — for main mill drives. He has supplied thousands of feet of Goodyear Wingfoot Air Hose to conduct air efficiently to tools and pneumatic equipment. He has furnished Goodyear Cone Belts for steady power on textile machinery. The G.T.M. knows your work and your problems. He can bring new profit to your plant.

. . .

For the help the G.T.M. can be on your job, just write to Goodyear, Akron, Ohio, or Los Angeles, California.

THE GREATEST NAME IN RUBBER

GOODYEAR

BELTS MOLDED GOODS HOSE PACKING

away with vibration of the spindle, due to eccentricity.

When the top of the segments are pushed in by the bobbin, the lower ends move out, giving a longer bearing of the segments on the bobbin.

The jacket and segments are so fitted together that waste and other foreign substances cannot get inside to disturb the action of the clutch

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**NEW LEAFLET ON RAYON.**

Stein, Hall & Company, Incorporated, 285 Madison Avenue, New York City, have prepared and are distributing a new leaflet describing their product, Raygomm, a size for rayon. A complete description of this product in its various forms is supplied, and its cohesion, flexibility and "desizability" are discussed.

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**TOTALLY ENCLOSED FAN COOLED MOTORS.**

Allis-Chalmers Manufacturing Company, Milwaukee, Wis., have announced that they are now offering to the trade Allis-Chalmers totally enclosed fan cooled motors. They state that simplicity, compactness, accessibility, and strength are marked characteristics of these motors; also, that the mechanical structure is so simplified as to eliminate completely the hazards invited by complicated designs which involve a large number of separately attached parts. The new type motor is very adequately described in Leaflet No. 2124, now being distributed by the company.

# NEWS ITEMS *with a Textile Slant*

**MUNDET OPENS NEW BRANCH OFFICE.**

L. Mundet & Son, Inc., 461 Eighth Ave., New York City, prominent manufacturers of cork products, announce that they have just opened their eighteenth office—this one at 2420 Nance St., Houston, Texas, in the name of L. Mundet & Son, Inc., of Texas. The branch office is in charge of Willard A. Selle.

The company states that they intend carrying a full line of stock such as Mundet "Jointite" cork board for all cold insulation service as well as for roofing, flooring, etc., at the Houston warehouse.

Mundet also announces a change in the management of the Mundet Buffalo branch office. E. G. Fahnestock, formerly connected with both the Armstrong Company and the United Co., is in charge of this branch.

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**NEW ADDITION FOR INDUSTRIAL RAYON.**

Hiram S. Rivitz, president of Industrial Rayon Corp., Cleveland, announces that a $250,000 addition is now being erected at the company's Cleveland plant. When this expansion program is completed in the near future it will add 1,000,000 pounds of rayon a year to the plant's capacity, it is announced.

This will bring the combined production of the Cleveland plant and the units in Covington, Virginia, to 13,000,000 pounds of rayon per year. Officials of the company state that although the rayon producing industry as a whole is running on a considerably curtailed program, the two plants of Industrial Rayon Corp. have been operating at full capacity for the last several months.

Mr. Rivitz also announces that his firm expects to produce a new product somewhat similar to the cellophane now made by duPont, which is being used extensively in wrapping cigars, toilet goods, cakes, meats, and so on. He declares that the demand for this type of wrapping material is growing constantly and that before very long Industrial Rayon Corp. expects to erect a plant in Cleveland "to manufacture something similar to cellophane."

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**NEW AGENT APPOINTED.**

Herman H. Leonard, New York City, has been appointed sole agent in the United States and Canada for Sachsische Textilmachinenfabrik vorm Rich Hartman Aktiengesellschaft, Chemnitz, Germany. This concern manufactures cotton spinning, worsted spinning, woolen and waste spinning machinery, machinery for the manufacture of rayon, and maintains a department for the manufacture of spinning rollers, spindles, etc.

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**NEW FACTORY BRANCH OPENED.**

Chas. A. Schieren Company, tanners and manufacturers of Duxbak water proof leather belting, have opened a complete factory branch at 504 Camp Street, New Orleans, La. The new branch will be under the management of Byron E. Dodd of New Orleans, who has had wide experience in the belting game. This branch will be completely equipped to handle all kinds of belt repair work, and a force of experienced belt men will be available to take care of installations, the company announces.

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**NEW PAINT ORGANIZATION RECENTLY FORMED.**

The Stewart-Bartleson Co., Inc., of Spartanburg, S. C., has purchased the paint manufacturing plant of Stewart Brothers Paint Co., also of Spartanburg, and will operate it as a strictly Southern concern. The plant was built and has been operated by the Stewart Bros. Paint Company of Alliance, Ohio. C. W. Bartleson, Jr., formerly vice-president of Stewart Bros. Co., and one of the men who was instrumental in installing the Spartanburg plant, is owner and will have charge of the new company.

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**ANNOUNCEMENT OF CHANGE IN PERSONNEL.**

The Roessler & Hasslacher Chemical Company, Inc., Niagara Falls, N. Y., recently announced that Dr. W. F. Zimmerli, who has been operating with the commercial development division at the New York office, has been appointed head of the commercial development department at Niagara Falls and will make his headquarters at that place.

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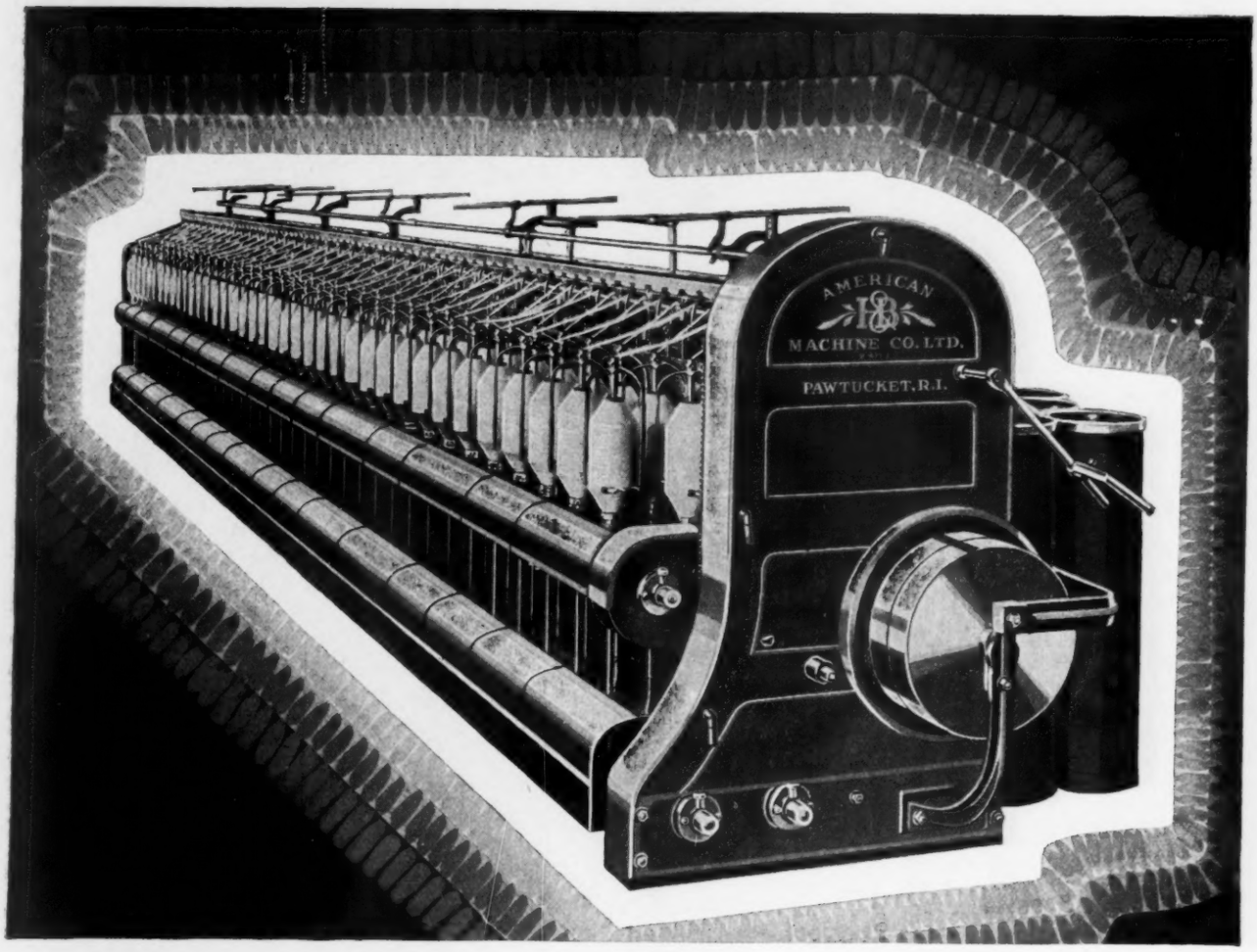
**PREMIER RAYON REVIEW.**

Industrial Rayon Corporation, Cleveland, is now publishing an attractive and novel sort of magazine for customers and distributors, called, Premier Rayon Review. The first issue, dated September, was mailed the last week in August.

It is stated that each month Premier Rayon Review will be distributed to a comprehensive list of executives, buyers and superintendents in mills that use rayon, to converters, selling agents commission houses, wholesalers and retailers. One of its purposes, according to a statement in the first number, is to be helpful in attaining and maintaining the highest possible standards in every phase of the rayon industry.

Included in the first issue are many features of interest to the trade — a discussion of "The Future of Rayon;" a contribution from Flint Garrison, director-general of the Wholesale Dry Goods Institute; a discussion of rayon fashions; an article on "Denier, Its Control and Evaluation;" sales promotion articles; news notes, and so on.

The Review is intended to complement rather than supplant the trade paper advertising of this company.




# H & B IMPROVED SLUBBING, INTERMEDIATE ROVING AND JACK FRAMES

*Uniform*
*Production*
*Longer*
*Life*

Case-Hardened Bobbin- and Spindle-Driving Shafts
Improved Method of Fastening Long Collars
Automatic Panel-Locking Arrangement
Recessed, Self-Lubricating Spindles
Patent Shipper for Cone Belt
Bearings Inlaid with Brass
Full-Bobbin Stop Motion
Rack Winding Device

***Our Bulletin, explaining these features in detail, will be sent upon request.***

## H & B AMERICAN MACHINE CO.

PAWTUCKET, R. I.

***Southern Office:*** 814 and 816 Atlanta Trust Co. Bldg., Atlanta, Ga.

BUILDERS OF COTTON PREPARATORY AND SPINNING MACHINERY

# NOTES ABOUT MEN YOU KNOW OR KNOW ABOUT

**George A. Franklin,** for the past six years general superintendent of the Augusta Factory, Enterprise Mfg. Co., and the Sibley Mfg. Co., Augusta, Ga., recently resigned that position to accept a similar position with the Loring interests at Langley, Bath and Clearwater, S. C., having been appointed general superintendent of the Langley Mfg. Co., Aiken Mfg. Co., and Seminole Mfg. Co., at the above places respectively.

**James W. Cox, Jr.,** of the firm of Cox, Fuller & Mauersberger, consulting and textile engineers of New York City, has become vice-president in charge of manufacturing at the Augusta Factory, Enterprise Mfg. Co., and the Sibley Mfg. Co., at Augusta.

**James W. Corley** has resigned his position as manager of the California Cotton Mills, at Selma, and Uniontown, Ala.

Mr. Cottrell.

**Benjamin S. Cottrell,** a director of the Parks-Cramer Company and well known particularly to many of its textile customers, died at his home in Jamestown, Rhode Island, on September 24, 1930. He was widely and favorably known for his unfailing courtesy, his rugged honesty, his conscientiousness and loyalty. His many close friends in the industry and with the Parks-Cramer Company will miss him for all these qualities.

**D. C. Anderson** has resigned his position as overseer of twisting with the Goodyear Clearwater Mills No. 3, Atco, Ga., to accept the position as division superintendent with the B. F. Goodrich & Company at Thomaston, Ga.

**W. H. Gibson, Jr.,** formerly manager and superintendent of the Aileen Mills, of Biscoe, N. C., has been appointed assistant general manager of the Mansfield and Jennings Cotton Mills, at Lumberton, N. C.

**L. H. Beck** recently resigned his position as superintendent of the Cotton Mill Products Co., Mobile, Ala. He has not announced his future plans.

**R. F. Murray,** who has been second hand in spinning at the Mauney Mills, of Kings Mountain, N. C., has been promoted to boss spinner at the same plant.

**A. W. Edwards** has now assumed his new duties as superintendent of the testing laboratory of the Morgan Cotton Mills, Laurel Hills, N. C.

**M. R. Harden** recently resigned his position as superintendent of the Delgado Mills, Wilmington, N. C. He later became superintendent of the No. 1 Mill of the Erwin Cotton Mills Company, at West Durham, N. C., succeeding J. A. Holt, who was transferred to the superintendency of the No. 4 plant of the same company in West Durham, succeeding W. P. Ward, resigned.

**W. E. Shinn,** professor of weaving and designing, Clemson College (S. C.) Textile School, has resumed his duties there after having spent the summer in Washington, D. C., where he was engaged in standardization of fabrics in the textile division of the U. S. Bureau of standards.

**C. N. Poore,** of Louisville, who was until recently general superintendent of the Louisville Cotton Mills Co., now a part of Louisville Textiles Inc., is now representing the American Yarn & Processing Co., of Mt. Holly, N. C.

**W. F. Hedges** is general manager of the Silver Knit Hosiery Mills, the former Rex Tex Hosiery Mill, Kingsport, Tenn., which was recently purchased by Milton Silver, High Point, N. C.

**John F. Tinsley,** vice-president and general manager of the Crompton & Knowles Loom Works, Worcester, Mass., and **Thomas H. Gage,** a director of the same corporation, were recently appointed as arbitrators of the American Arbitration Association, New York, to settle commercial disputes.

**W. F. Hall, Jr.,** has now assumed his new duties with George B. Pfingst, Inc., of Philadelphia. He will cover the entire South for this concern. Until his recent connection, Mr. Hall had been connected with the Charlotte (N. C.) Knitting Co.

**Robert Wood,** until recently superintendent of the Wampum Cotton Mills, Inc., of Lincolnton, N. C., is now overseer of spinning at the Gray Mfg. Co., Gastonia, N. C. He succeeds J. H. Fagan, who has resigned to represent the Gastonia Brush Co., and the Gastonia Roller Spindle & Flyer Shops, of Gastonia, throughout the entire southern states.

**L. V. Andrews,** formerly superintendent of Edna Cotton Mills, Reidsville, N. C., has accepted a similar position with the Martinsville (Va.) Cotton Mill Co.

**S. I. Parker,** for the past 11 years superintendent of the Proximity Print Works, of Greensboro, N. C., has resigned to become superintendent of the Clearwater (S. C.) Mfg. Co.

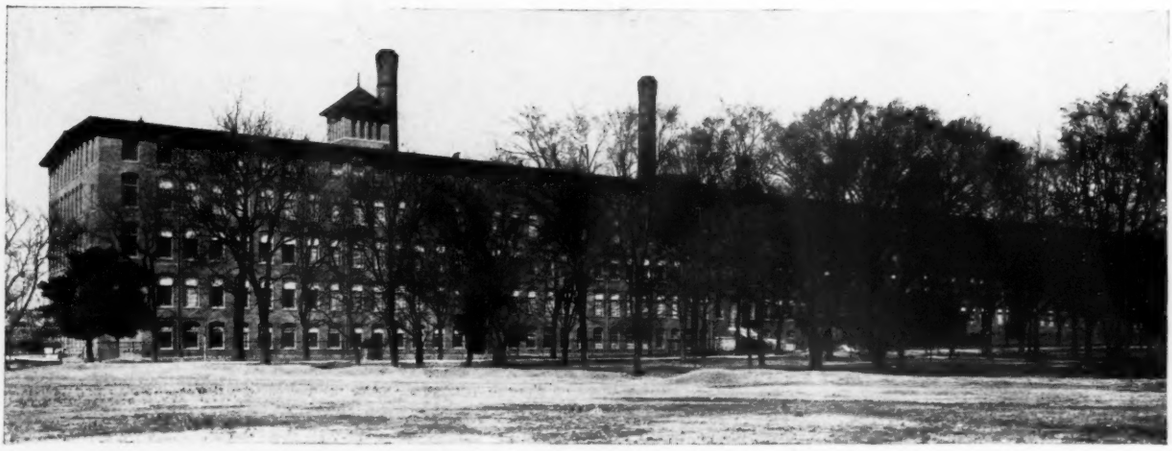
**Francis Stanley North,** president of the Union Special Machine Company and a resident of Lake Forest, Illinois, died on Tuesday, September 9, 1930, at Boston, Mass., following a long illness. He had held various positions in the organization of the Union Special Machine Company and was particularly instrumental in establishing foreign branch offices. He will be missed by his many close friends in the industry.

**C. C. Fuller** has been recently appointed manager of the Foxboro Company's New York office. He replaces the late W. W. Patrick. Mr. Fuller will have complete charge, and will be ably assisted by **K. L. Barton, R. A. Rockwell** and **F. J. Leerburger.**

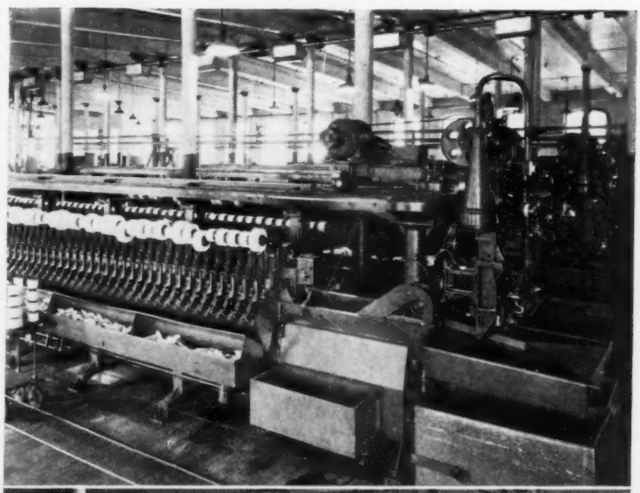
**R. C. Veach** has become overseer of carding and spinning at the Ranlo Manufacturing Company, Ranlo, N. C.

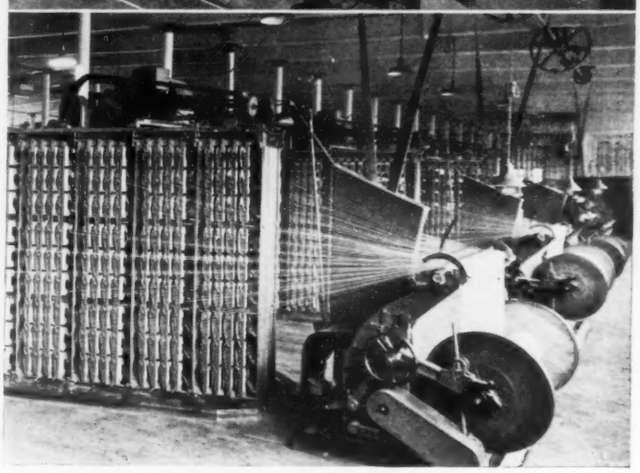
**Robert Pevey Stevenson,** associated with the Henry L. Scott Co., of Providence, R. I., for the past five years, died at his home in East Providence, September 21st, in his 46th year. Prior to his association with the Scott company he was employed by the Lockwood Greene Engineers, Inc., Saco Lowell Shops, American Steel and Wire Co., Charles T. Main, and William V. Threlfall. He is survived by his widow and three sons.

"EVERY KNOT A WEAVER'S KNOT"



# BARBER-COLMAN





AUTOMATIC SPOOLERS

*AND*

HIGH SPEED WARPERS

*are used by*

# DALLAS

MANUFACTURING CO.

HUNTSVILLE, ALABAMA

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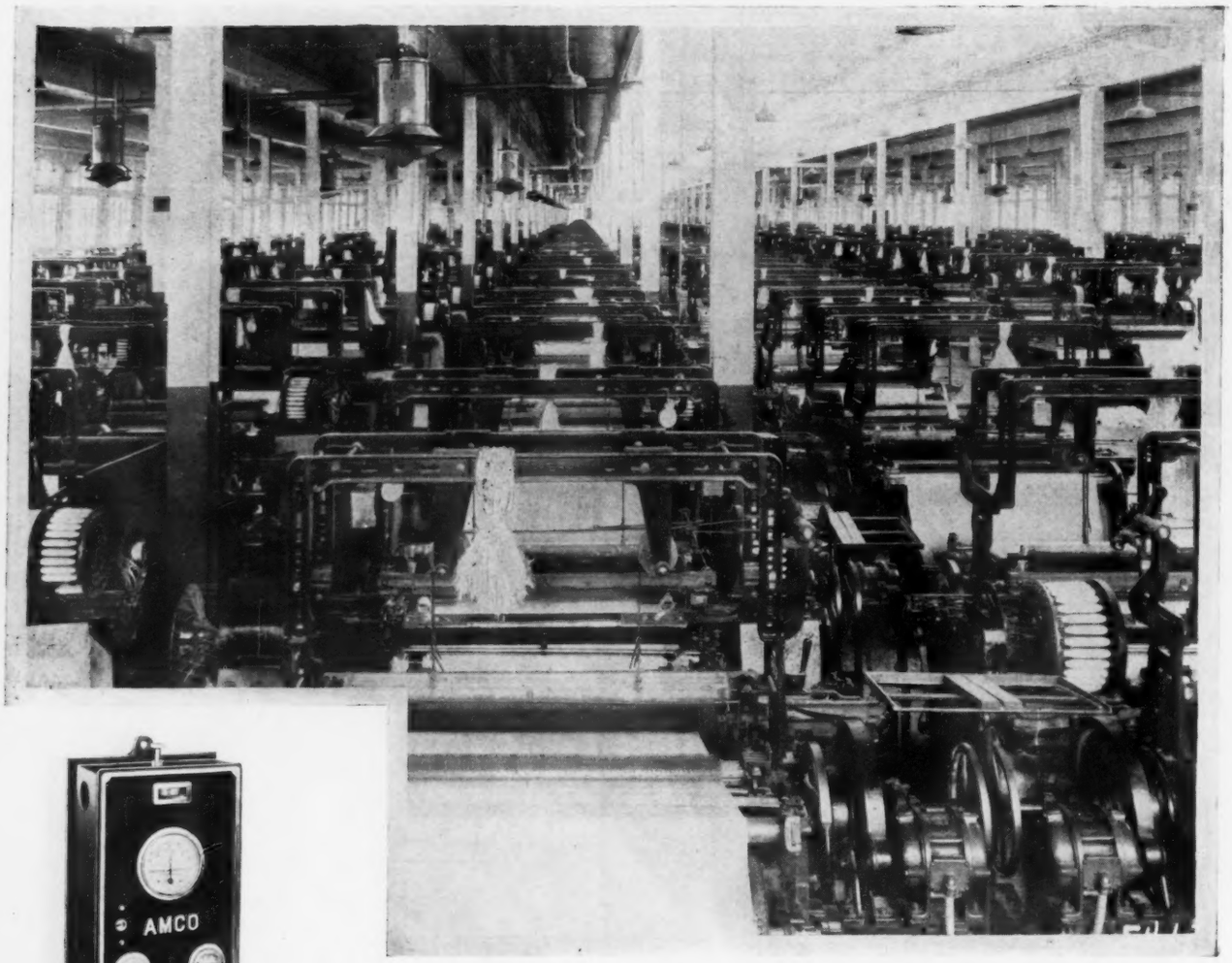
*Our List of Users is our Best Advertisement*

## BARBER-COLMAN COMPANY

*General Offices and Plant,* ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS. GREENVILLE, S. C.



*This newly designed Amco Humidity Control automatically regulates and controls humidity in Textile and other mills without using wet or dry bulb actuated devices.*

# AMCO Humidifiers are standard

AMCO humidifiers installed over looms in the weave shed at Nashawena Mills. Note how they are staggered with respect to each other giving uniform distribution of humidity to all machines.

Like other up-to-date textile mills, the Nashawena Mills of New Bedford, Mass. (J. L. Burton, Agent) are equipped with American Moistening Company's AMCO Humidifiers. The photograph is a view through the Weave Shed.

Nashawena Mills have the largest spindlage of any mill in the United States operating under one roof. Their equipment consists of 6100 looms and more than a quarter of a million spindles.

Our humidification engineers are at your service without charge or obligation to make a written survey of your humidification needs. Get an expert air doctor's advice on humidification requirements in all departments. An air doctor's diagnosis costs you nothing and may result in changing red figures into black figures, with a sweet running plant and better working conditions for labor as a bonus.

EXECUTIVE OFFICES
312 West Exchange Street,
Providence, R. I.

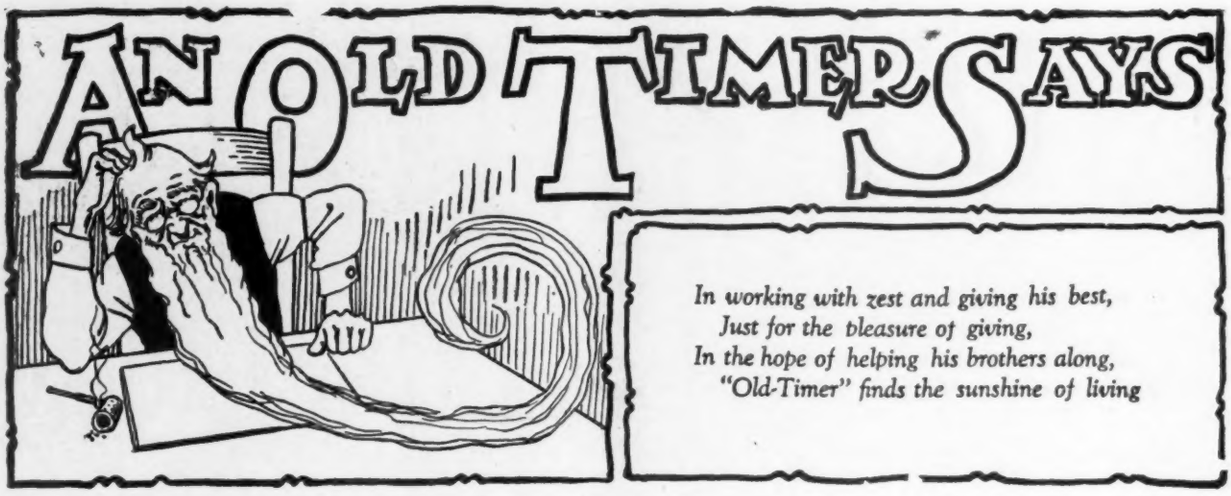
CANADIAN AGENTS
Ross Whitehead & Co., Ltd.
1111 Beaver Hall Hill
Montreal, P. Q., Canada

SALES OFFICES
Boston, Mass. Atlanta, Ga.
Charlotte, N.C. Greenville, S. C.

## AMERICAN MOISTENING CO.

### Humidifying Devices

*Air Doctors Since 1888*


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brothers along,
"Old-Timer" finds the sunshine of living

# *What Are You?*

IT IS NOT the biggest dog which always wins the fight; neither is it the fellow who has the most luck, nor the fellow who has the most money, nor the fellow who has the most pull; and not always, strange to say, the fellow who has the most brains.

Now, of course, that word "brains" can be used in many different ways, to express many different meanings. You know a cow has *more* brains than a man, therefore it would seem that it resolves into the *kind* of brains a man has rather than the amount of brains.

Sometimes, we find a man who seems to have a brain that is almost perfect in one line but is so badly off in another line, that it makes him impractical and therefore he is never much of a success.

For example, one of the best overseers I have ever known could not hold a job more than a year or two, and he had some of the largest jobs in the country. He finally wound up as time-keeper in a large mill.

He knew how to run a weave room. He had the weave room brains, so to speak, but acted like a ten-year-old boy in some other ways.

You very often seen an overseer or superintendent who can just run the dickens out of a job as long as there is plenty of help, but let a shortage of labor come along and he will be the first man to have the machinery stopped.

And of course we all know that you hardly ever have to discharge many operatives when you have plenty, but when help gets short then more than likely you will be compelled to discharge some.

The thing I can't quite figure out is, how an overseer or superintendent can have a weakness, a lack of brains along certain lines and not know it; in fact, I believe the average man does know it. Then why in heck doesn't he do something about it?

If an overseer or superintendent knows he is only capable of running a job as long as help is plentiful, why doesn't he try to find out what is the reason people don't like to work for him, so he can prepare himself to run the job equally as well when help is scarce?

Some people can say good morning to you in such a way that it will make you mad, and just what they get out of it, darned if I can see. They even look like they take a delight in being cross, never willing to give a brother a civil answer; in fact, they look to me like they are even mad at themselves.

Now how much more joy such a man would get out of life if he had a disposition that would make it possible for people to enjoy being with him; a disposition that would make him some real honest-to-goodness friends.

Wait a minute now before you say OLD-TIMER is advocating familiarity between overseers and the operatives. No! a thousand times no! but a man can be pleasant in his dealings with operatives and his brother overseers and never for one moment lose any of his prestige with them. A man can say *No* to an operative and that operative will know he means just that. He can say it in another way and the operative's feelings will be hurt and he will have resentment in his mind; he will be anxious and glad at any time to "get back at" the man who treated him so discourteously.

Here is one of the underlying causes of labor troubles and all the other kinds of troubles overseers and superintendents have in working with operatives.

The sooner we come to realize that the operative is a human being, that he has a heart or feelings which can be very easily hurt, then we are all going to get along better and have more co-operation.

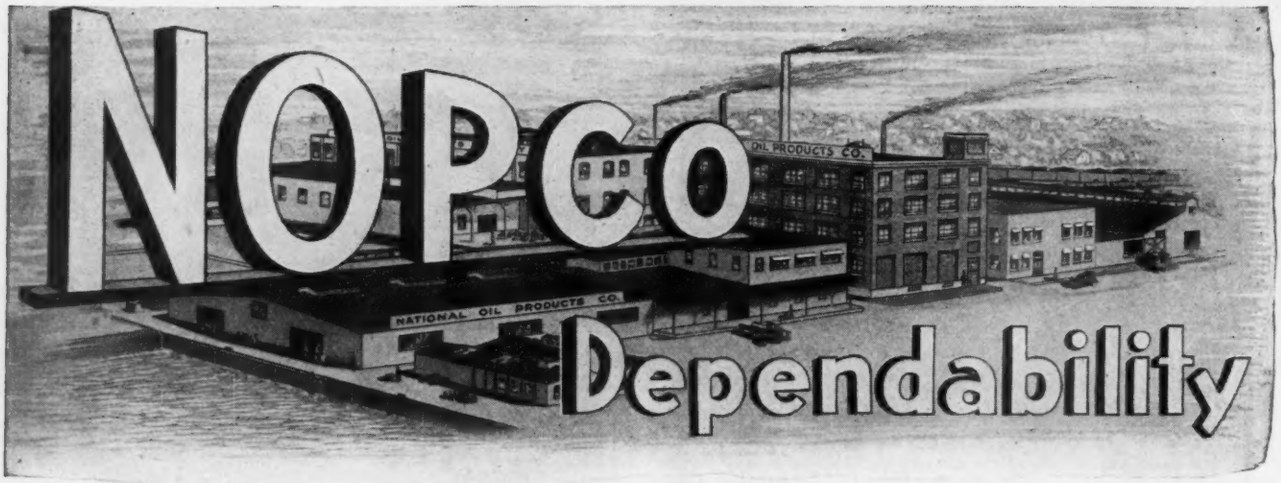
One point along this line that I have always observed is it is usually the uneducated overseer or superintendent who is most arrogant in his dealings with operatives; he seems to think he has got to be a "bulldozer" in order to show his authority.

Remember, fellows, the overseer or superintendent who can *lead*, instead of *drive*, is the man who is going to forge ahead in these modern times.

This is a day of mergers, of consolidations, etc., and as mergers are larger than individual units, there is going to be a demand for bigger men. In fact, some of those big jobs are already showing up.

*Are you ready for one of them?*

Or have you one of those darn mean dispositions we have been talking about? You know there is a well established law that governs the price of every-




*A Series of Advertisements on Reasons Why Rayon Manufacturers Should Use TEXTOYL 1556.*

## Reason No. 5

## Contains Under 2% Moisture

# *Gives Good Lubrication–Produces Uniform Yarn Treated Rayon Retains Weight When Stored*

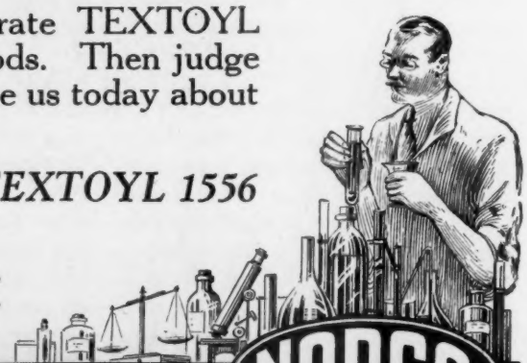
The usual moisture content of soluble rayon oils ranges from 8 to 25%. This excessive moisture causes the rayon to stretch resulting in shiners and uneven courses.

TEXTOYL 1556 contains less than 2% moisture. Rayon can be safely oiled to 5 to 6% of its weight with this soluble oil. The take-up will be uniform. And there will be no noticeable shrinkage of weight on drying. The result will be smooth, even yarn.

## *Other Advantages of TEXTOYL 1556*

**It is resistant to rancidity**
**It is resistant to oxidation**
**It is practically neutral in reaction**
**It has low viscosity**
**It is highly emulsifiable**
**It does not yellow rayon upon storing**

Let our skilled technicians demonstrate TEXTOYL 1556 in your own plant on your own goods. Then judge for yourself as to its performance. Write us today about a demonstration.



*Ask for booklet completely describing TEXTOYL 1556*

**NOPCO REPRESENTATIVES:**
**Mr. L. L. Okey, Reade House, Chattanooga, Tenn.**
**Mr. G. R. Slayton, 206 W. 6th St., Charlotte, N. C.**

**NATIONAL OIL PRODUCTS COMPANY, Inc.**
EXECUTIVE OFFICES AND FACTORY **HARRISON, N. J.** BOSTON, MASS. CHICAGO, ILL. ST. JOHNS NEWFOUNDLAND

NOPCO

thing, whether it is cotton, apples, eggs or *you*. Yes, you have got your price, that is, a price on your services, and there is no one on earth who can raise or lower that price, that value, but *you*.

You know how Burbank, or anyone else for that matter, can, or did, raise the quality of tomatoes? Sure you do. You know that he started a system of elimination; that is, he eliminated the undesirable ones; he selected the best and raised others from them, etc.

Now what is the difference in improving a human being's brain, his disposition, his *habits*—

Now! There is that big word I have been leading you up to: Habit. It hasn't many letters, but they surely do spell something.

There is nothing which affects a man's character, his disposition, his usefulness, more than his habits.

And as habits are formed by the individual himself, then he can, if he has the *will power*, improve those habits just like Burbank improved the tomatoes.

Eliminate the bad habits and you strengthen the good ones; the *more* bad ones you eliminate the *more* the good ones grow.

The only reason why some positions pay $10,000 to $15,000 per year is because the supply of such men is so small and the habits, the dispositions of the vast majority of men is one big reason why the supply of such men is small.

Say! What are you, anyway?

Where do you belong in this kind of reasoning? Are you not interested in the wonderful opportunities ahead of you?

Well, suppose you are not, then are you not interested in a happier life, a more congenial companionship with your fellow man—yes and with your own kinfolks—your family?

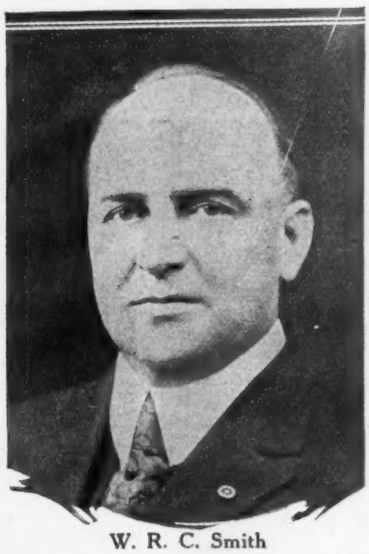
Then why in the (well, you know what) don't you cultivate that disposition enough to weed out the bad habits?

# 25 Years *of* Leadership

OCTOBER 16th, 1930, marked the 25th anniversary of the founding of the W. R. C. Smith Publishing Company, publishers of COTTON and five other leading business and industrial magazines.

Commemorating this notable milestone, all of the local members of the organization gathered in the company's offices in the Grant Building, Atlanta, the morning of October 16th for a brief, but impressive ceremony.

The feature of the occasion was the presentation to Mr. Smith of a handsome bronze-and-onyx desk set as a token of the esteem in which he is held by all those now connected with the business which he established a quarter-century ago. Likewise, an elaborate floral piece was presented to Mrs. Smith in recognition of the important part she has had in encouraging the activities of the South's leading publisher of business papers.



W. R. C. Smith

The occasion was made still more memorable by the reading of telegrams of congratulations and good wishes which arrived during the morning, from more than a score of the nation's outstanding publishers. Typical of these was a message from F. M. Feiker, managing director of the Associated Business Papers, in which he said:

"My congratulations on your 25th anniversary as a publisher in Atlanta. The 135 other members of the Associated Business Papers join me in wishing you continued success. You must feel a deep satisfaction in having played so prominent a part in the promotion of a wider knowledge of the industrial and commercial development of the South, which has made such outstanding progress in the last quarter century."

It was on October 16th, 1905, that Mr. Smith established his first publication in Atlanta. From that small start has developed what is now recognized as one of the outstanding business paper publishing organizations in the country. The company's publications include Southern Power Journal, COTTON, Southern Hardware, Southern Automotive Journal, Electrical South, and Southern Aviation.

Mr. Smith has been more than a publisher—he has been a recognized leader in business and civic affairs. As a past president of the Atlanta Chamber of Commerce, past Atlanta president and district governor of Rotary clubs, as a leader in the movement to advertise nationally the industrial and commercial advantages of the South, and in many other ways, he has contributed largely to the development of the section which his publications cover.

"He builds for many who builds well," was the fitting tribute engraved on the desk set which his associates presented to Mr. Smith.

# "Budget Control"

## What it Does and How to Do it

This booklet sets forth—

1. The reasons for a budget in business.
2. How each part of it should be prepared.
3. The principles of its effective operation.

Particular attention is directed to the booklet at this time, because of the peculiar importance of the budget in the control of finances and improvement of organization. The present edition is a second printing, revised and enlarged, of the original issued by Ernst & Ernst in 1925. It has forty pages with six exhibits. *Mailed on request of nearest office.*

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AKRON, ATLANTA, BALTIMORE, BIRMINGHAM, BOSTON, BUFFALO, CANTON, CHICAGO, CINCINNATI, CLEVELAND, COLUMBUS, DALLAS, DAVENPORT, DAYTON, DENVER, DETROIT, ERIE, FORT WAYNE, FORT WORTH, GRAND RAPIDS, HARTFORD, HOUSTON, HUNTINGTON, W.VA., INDIANAPOLIS, JACKSON, MISS., KALAMAZOO, KANSAS CITY, LOS ANGELES, LOUISVILLE, MEMPHIS, MIAMI, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, OMAHA, PHILADELPHIA, PITTSBURGH, PORTLAND, ME., PROVIDENCE, READING, RICHMOND, ROCHESTER, ST. LOUIS, ST. PAUL, SAN ANTONIO, SAN FRANCISCO, SEATTLE, TAMPA, TOLEDO, TULSA, WACO, WASHINGTON, WHEELING, WILMINGTON, DEL., WINSTON-SALEM, YOUNGSTOWN

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PROVEN IN SERVICE

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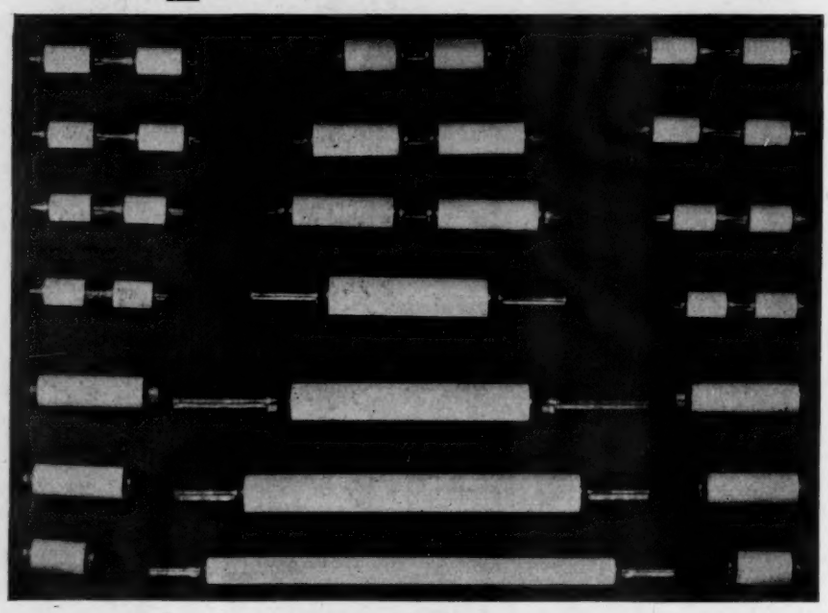
Because Philadelphia Felts are made from the finest of raw materials . . . because they are manufactured under the best of conditions, as to experience, men and machinery . . . because they are rigidly inspected—you are assured of getting the utmost in felt cloths when you specify Philadelphia.

Roller, Clearer and Slasher Cloths. Stamping Blankets our specialty.

**Our Southern Sales Manager, Clarence B. Seal, will gladly assist you on felt cloth problems. Address inquiries to Philadelphia.**



PHILADELPHIA FELT COMPANY

FRANKFORD, PHILADELPHIA, PA.

# HOW OTHER MEN MANAGE

## Practical Discussions by Cotton's Readers On all varieties of Mill Subjects

### Bow in Cloth.

This man was able to take out bow, and tells how he did it. And how!

EDITOR COTTON:

I have been noticing the discussion published in COTTON with regard to bow in cloth. As some of your correspondents say, this is always with us, and seems to be a pretty universal problem, and I feel fairly certain that it will always be with us. However, I have recently made some investigations along this line that have been interesting to us and I am going to tell you of what I found out on the chance that it may be of interest to your readers who are bothered with this difficulty in their weaving.

I have examined perhaps 100 different weaves and find bow in all of them except one, which was a heavy duck that was 70 per cent warp. This made me go back over some of the lighter weaves and I invariably found that if the warp predominated in the construction of the fabric, the bow was less in proportion. I also took several weaves, especially sheeting, and ran bobbins of different numbers of filling from 7s to 18s, and found that the bow would vary but very little as a result of changing the filling number.

Not wishing to feel beaten in the matter, and determined to take out the bow if it was possible, I built a lay that had a bow in the reed—that is, the center of a 60-inch reed was back one inch from a line drawn from box back to box back. Now, I can just hear the boys say that this would not run, but strange to say, it did run very well. The cloth was a light drill, 68x48, 12.25s warp and about a 14.00s filling. On a regular loom, that is a loom with a regular lay in it, this cloth showed up with a bow of about 1 inch, but when woven on the loom that I have rigged up as described, it showed a decided bow in the opposite direction *while weaving*, but on taking the cloth off, it had a very slight bow in the usual direction, but it was not over ¼-inch.

However, this did not appear to be practical, so I built a take-up roll that was high on each side, tapering to the center and then back up on the other side, and I got about the same results as with the bowed reed.

This seems to me the way to work on this matter, but the great objection to either of these methods is that every fabric which has any difference in make-up, varies in bow, as it would be a case of continually changing the take-up rolls or the lays for each variation in the fabric or the bow in each fabric.

I might say that the manner used to determine the amount of bow on these tests was to weave in about two picks of colored filling, and then put a line or straight edge from selvage to selvage, the cloth being laid out on a wide table.

CONTRIBUTOR NO. 4879.

**We invite our readers to make use of this department for the discussion of any and all problems arising in the mill or the finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.**

### Suggestions for Preventing Loopy Filling.

The ideas of one of our readers on what might be done in preventing this difficulty.

EDITOR COTTON:

This is in answer to the question you published, asking for discussion as to the causes and remedies of loopy filling in a 5-harness warp sateen. The man asking the question explained that he did not mean loopy selvages, but small loops of the filling appearing across the cloth on the face of the goods. The goods he mentioned were 53-inch, 96x64, 1.32 warp sateen, 18s warp and 12.50s filling, with a twist multiple of 3.79 in the filling.

One suggestion would be that he check the timing of the harness cams. We suggest that these cams be set so that when the harnesses which are coming up are level with the one going down, the reed is at a distance of 3½ to 3¾ inches from the fell of the cloth. In further explanation of this I might say that by having the timing of the harness cams set so the harnesses will interlace just when the shuttle gets out of the shed, there is a minimum chance for the filling to get slack and loop up. On the other hand, if the reed is farthest away from the fell of the cloth when the shuttle leaves the shed, there is maximum possibility for the filling to loop.

Less twist in the filling might help. We have run a similar fabric with approximately the same number of filling, and used a twist multiple of 3.55.

In the event the filling is not being conditioned thoroughly, this might help.

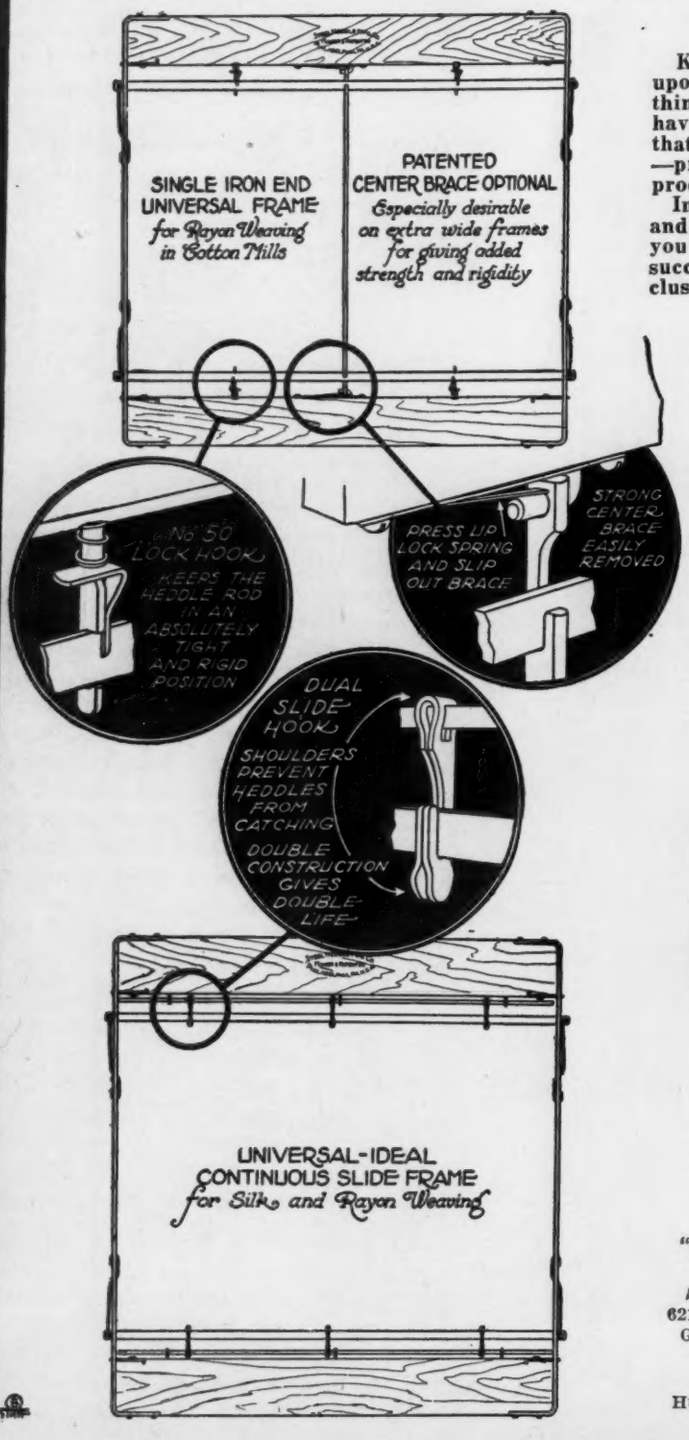
The power on the looms should be checked. It is possible that the shuttles are not being checked properly in the looms.

The bristles or frictions in the shuttles might not be as good as they could be. Good bristles in the shuttles might prevent the filling from looping excessively when pulled off of the bobbins.

I hope that one of the foregoing points might help to solve this problem. However, I would suggest that the timing of the harness cams be checked first, providing this has not already been done.

CONTRIBUTOR NO. 4824.

# FRAMES THAT ARE BETTER!


SINGLE IRON END UNIVERSAL FRAME
for Rayon Weaving in Cotton Mills
PATENTED CENTER BRACE OPTIONAL
Especially desirable on extra wide frames for giving added strength and rigidity
No. 50 LOCK HOOK KEEPS THE HEDDLE ROD IN AN ABSOLUTELY TIGHT AND RIGID POSITION
PRESS UP LOCK SPRING AND SLIP OUT BRACE
STRONG CENTER BRACE EASILY REMOVED
DUAL SLIDE HOOK
SHOULDERS PREVENT HEDDLES FROM CATCHING
DOUBLE CONSTRUCTION GIVES DOUBLE LIFE
UNIVERSAL-IDEAL CONTINUOUS SLIDE FRAME
for Silk and Rayon Weaving

Knowing that our success depended upon giving the textile industry something better than they were using, we have endeavored to produce loom harness that would simplify operations and set-up—produce a better material at increased production.

In the matter of Heddle Frames for Silk and Rayon, the two illustrated will give you somewhat of an idea of how we have succeeded. These frames are of our exclusive design, consequently their advanced features cannot be duplicated on any other make frame.

Steel Heddle Frames possess utmost rigidity made possible by heavy steel ends scientifically braced.

All wood parts are selected and prepared with great care—air dried at least three years, planed to exact thickness and carefully finished to avoid absorptions of humidity.

The No. 50 Lock Hooks prevent the possibility of heddle rods unhooking while the loom is in motion.

Continuous slide frames are equipped with new non-catching double acting slide hooks.

*Send for Details*

## Steel Heddle Mfg. Co.

**2100 W. Allegheny Ave.**
**Philadelphia, Pa.**

*"Originators of the Flat Steel Heddle"*

*Southern Plant:*
621 E. McBee Ave.,
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## Putting Starch on Loom Belts.

EDITOR COTTON:

"CONTRIBUTOR No. 4768" asks why we sprinkle corn starch on the loom driving belts.

We all know that the belt is on the tight pulley when the loom slams off, and unless something breaks, the belt must slip until it turns off onto the loose pulley. When the belt is extra tight, and has excess dressing or is dirty and gummy, you can hear it squeak so as to be heard half way across the room. When we find a loom belt in this condition, we sometimes put corn starch on it, but we more often use beef tallow. The tallow seems best to cut the sticky coat from the belt. Then too, this will have a tendency to soften the belt and is not injurious.

This contributor asks why a direct motor-geared loom will not give trouble. A direct motor-geared loom is a more positive drive than a sticky belt, I admit, but the motor is constructed so as to take care of a slam-off.

CONTRIBUTOR No. 4811.

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EDITOR COTTON:

I noted the inquiry as to why overseers allow loom fixers to sprinkle corn starch on loom driving belts. I will answer it as follows:

The first requirement of a loom belt is a smooth, clean driving surface. This is necessary to keep the loom from jumping or "loping"; and also slip just a fraction the instant the loom picks. A damp sticky belt gives a jerky motion to the loom, which, of course, makes for poor operation. In the damp atmosphere of a weave room, belts have a tendency to become gummy and sticky and start giving trouble. Particularly is this true in a room with overhead drives.

In order to correct this, it is necessary to clean the belt thoroughly with a piece of rag or old card clothing, some fixers preferring to use a file or the square edge of a screw driver. Sometimes this will not entirely suffice, as the moisture in the belt cannot be rubbed out, and a little starch sprinkled or rubbed on the belt will restore the running qualities. But the cure is only temporary and in a few days the whole process must be repeated.

Starch is not good for a belt. Belts that have been dusted with starch are dry, and burn on the pulley when the loom slams without knocking the lever off.

Your inquirer asks why no trouble is experienced on a motor driven loom. On a motor drive, the driving force is applied through a number of cork inserts pressing against a disc. Once these inserts are brought into contact with the disc, they remain there until the loom is stopped. On the other hand, the belt is not always in contact with the surface of the pulley, and must travel out into the moist atmosphere and be affected by the dampness, as well as pick up dust and fly from the air. There is but small chance of much gum collecting between the insert and the plate, on the motor driven loom, once contact is made. It is necessary at times to wipe off the friction plate with a rag, as the inserts are not


# Does Oil Creep from Roll Necks and Stain Your Yarn?

You can avoid this waste by simply using NON-FLUID OIL. It Stays on Roll Necks—Won't creep out and spread onto rolls.

For ring spinning and mule frames use A-No. 00000 NON-FLUID OIL—it feeds a drop at a time—stays in the bearing and lasts much longer than liquid oil.

NON-FLUID OIL prevents the bearing wear that leads to poor alignment and uneven production.

And so much less NON-FLUID OIL is fed to the bearing, and it lasts so much longer than liquid oil that its use materially lessens the cost of lubrication—figured per operating hour—per month or per year.

*Write today for testing sample for spinning frames or other textile machinery, and bulletin, "Lubrication of Textile Machinery."*

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NON-FLUID OIL

MODERN TEXTILE LUBRICANT

*Better Lubrication at Less Cost per Month*

an entirely perfect friction contact.

There are several belt oils on the market prepared especially for treating rolls of belting before cutting for the loom. A whole roll may be easily treated and made resistant to moisture, and there need be no cause to use starch; cleaning with a rag being all the attention necessary.

CONTRIBUTOR NO. 4810.

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EDITOR COTTON:

I should like to join the discussion you are conducting with regard to the use of corn starch on loom driving belts.

We allow our loom fixers the privilege of using corn starch on the loom driving belts when it is absolutely necessary. We think it is necessary when the belts are jerking the looms during certain motions. There is more power required by the looms during the picking motions, and for this reason there is more load on the belts at this time than at any other time. If a belt has a tendency to adhere tightly to the loom pulley, it will jerk the loom severely during this motion. On the other hand, if the belt is gripping the pulley just tight enough not to slip except during the picking motion, the jerking action will be minimized. When a loom belt is found to be jerking its loom excessively, and it is not possible to prevent its doing this by taking up some slack, corn starch is applied. The corn starch will cause the belt to slip a little when the extra load is thrown on it and thereby prevent its jerking.

When looms are jerked severely by the belts, more parts are broken, and it is difficult to keep bearings, etc., tight.

I do not think it is a good practice to use corn starch on a belt, but for want of a better method to prevent the trouble mentioned, I think it is justifiable.

With a positive drive, such as a direct motor geared loom, there is no chance of a jerky action when the peak load is required by the loom. During the picking motion, if sufficient load is required as to overload the motor instead of jerking, it would be slowed down and therefore give the same results as when a belt slips.

B. M. (ALA.)

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EDITOR COTTON:

In reply to "CONTRIBUTOR NO. 4768," I am inclined to believe that an overseer who permits his loom fixers to apply corn starch or any other powder such as rosin or fullers' earth to a belt is guilty of wasting and spoiling a good belt, when he permits this to happen.

The only reason for applying starch or any powder to a belt is to make it increase its traction and prevent slipping. This is only a temporary relief at the best. It does not cure the trouble, and a short time after it is applied the belt slips again and more is applied. In a short time, the grain starts to peel off of the belt and everyone wonders why the belt gave out and thinks that it was a bad belt. In reality the belt was consigned to an early doom by the treatment with starch and other powders.

A belt owes its traction or gripping property to the pulley to the fact that the pores in the leather form miniature vacuum cups that take hold of the pulley surfaces. When a belt slips, it is due to the filling up of these pores with some foreign substances. In a weave shed, it is due to filling up of the pores of the leather with dust and chafings from the loom held in the belt by oil which has spattered onto the belt. The belt starts to slip and this dressing of chafings and oil becomes polished in the belt and this is known as glazing. The addition of further dry material such as starch takes up some of this surface oil and roughens up the surface for the time being, so that the glaze is broken and the belt pulls again. As soon as more oil gets in the belt, the starch is consumed and the belt slips again. This finally builds up a coating on the surface of the belt. After a time, the coating becomes so thick that it peels off and takes the grain or the surface of the leather with it. When the grain surface, hair side, of a belt is worn off, it is only a short time before the belt is worn out and a new one must be purchased. If the grain does not peel off, the belt will crack and this is as bad since a belt that has many cracks will soon break.

When a belt slips, the best thing to do is to remove the cause and not be like the people who take a bath by using talcum powder. One is as bad as the other. It is a question of covering up one evil with another. Belts that have become oil-soaked and slip can be cleaned with a little gasoline. This will take out the oil and leave the leather free from grease or any tendency to glaze. The belt can then be made flexible and pliable by treating it with a good oily belt dressing such as a small amount of castor oil or neatsfoot oil. This oil will nourish and lubricate the fibers in the belt. It will not slip.

Vegetable tanned belts have more of a tendency to glaze and slip by reason of the fact that the pores of the leather and the spaces between the fibers are filled with the currier's compound. A mineral tanned belt is free from the stuffing and only has enough oil in it to keep it soft and pliable, that is to say, enough to keep the fibers lubricated. As a result the mineral tanned belt will grip the pulley better, transmit more power, and slip less.

It may be, however, that this very property of a mineral tanned belt may make it unsuitable for a loom belt. This happens when the loom has a shifting pulley rather than a clutch. The mineral tanned belt will not slip while shifting and cause trouble.

There may be a difference of opinion as to the desirability of vegetable tanned or mineral tanned belts on loom drives. Whatever belt is used, it can always be kept in better condition, will transmit more power, slip less and last longer if it is cared for with good judgment. In other words, if the cause of the slipping is removed, the belt will not slip, but if the cause is covered up, the belt will soon slip, and if the cause is covered up enough times, the belt will be untimely committed to the scrap pile.

Your contributor asks, in connection with this inquiry, why it is that motor geared looms give no trouble. We were not aware that they gave no trou-

# UP *would go the batting average!*

THE ball flashes from the pitcher's fingers. It's a curve, an in, an out-drop . . . it's high, or low, or wide . . . or it cuts the plate to be called a perfect strike unless it's hit.

In that fraction of a split second, just as the bat is swung, the batter's eye tells his brain and his brain tells his muscles the precise spot in space where his bat will find and squarely hit the ball. This fraction of a split second is what scientists call the *cognitive visual reaction time.*

When scientists tell us, then, after more than 40,000 observations, that the cognitive visual reaction time under COOPER HEWITT mercury-vapor illumination is more than *10* per cent faster than under daylight, other conditions being the same, we understand how a batter could more quickly see and more accurately bat if COOPER HEWITT light instead of daylight illuminated the ball field.

This, of course, is a mere supposition—for COOPER HEWITT mercury-vapor lamps are made especially for use in industrial plants. For such use, the faster cognitive reaction time under COOPER HEWITTS, small though it is, means that industrial workers see more quickly and sharply and perform their work more efficiently than they do under any other kind of light, including even daylight. And this is but one of several scientific reasons why COOPER HEWITT light is *better than daylight.*

*The COOPER HEWITT spectrum shows that more than 90% of its luminosity is made up of the cool, yellow-green rays—the best-seeing light rays known to science.*

*Join us in the General Electric Hour, broadcast every Saturday evening, on a nation-wide N. B. C. network.*

Unlike ordinary artificial light or daylight, which is made up of all the different colors (or wave-lengths) of the rainbow, COOPER HEWITT light is composed *almost wholly* of the cool, yellow-green rays of the spectrum. These yellow-green rays, found *in the middle* of the spectrum, are those by which science says human eyes see best. The explanation of this is that in one direction from the middle of the spectrum light waves become heat waves, then radio waves, etc.; in the opposite direction they become ultra-violet, then X-rays, etc. Thus both directions from the yellow-green rays lead away from visual rays and into wave-lengths by which your eyes do not see at all.

Because of its peculiar spectrum, too, COOPER HEWITT light produces no eye-straining glare or dark shadows. It is as soft and cool as moonlight, yet it makes all objects under it stand out as if they were magnified. And, perfectly diffused from a long light source — a 50-inch tube — COOPER HEWITT light reaches in and around and under all parts of a machine. It does away with the need for drop lights.

Full information about COOPER HEWITT light is contained in an interesting new booklet—"Why COOPER HEWITT light is Better than Daylight." A complimentary copy awaits your request. Address: General Electric Vapor Lamp Co., Hoboken, N. J.

GENERAL ELECTRIC
VAPOR LAMP COMPANY
*(Formerly Cooper Hewitt Electric Company)*

*(See next page)*

# *Afraid of your shadow? – why not? you should be!*

A workman stands over his machine. An improper source of light throws his shadow over the operation he is engaged on. Whether he is afraid of that shadow or not, he *should* be! For, to see clearly, he must step aside or otherwise take unnatural positions which eventually tire him and slow him down. Or else he must take the inevitable chances of letting poor materials or inaccurate work slip through. Sometimes even serious accidents result.

❦

These are things for which workers are so often blamed, whereas the fault really lies with the kind of lighting system they are forced to work under. Dark shadows are caused both by improper and inadequate light. And workman should not be expected to work under such light. It nearly always means that his efficiency, on which he is constantly rated for pay and promotion, is impaired—through slowed-down work, through eye-strain, nerve-strain, sleepiness and so forth.

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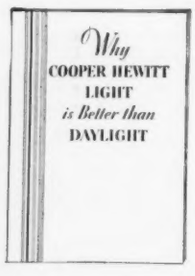


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ble, but, like any other piece of machinery, if properly cared for they are free from slippage and trouble, because the drive is a positive drive and the element of slippage is reduced to a minimum.

H. C. (PA.)

## Inspecting and Grading Ginghams.

EDITOR COTTON:

In a recent number you published some questions with reference to inspecting and grading ginghams and colored goods. This came from "CONTRIBUTOR No. 4715," who said that he makes ginghams and inspects the cloth by pulling it over a small table by hand. He wanted the practices of some mills on the following points:

Do you inspect and grade the cloth before or after it passes through the tenter machine? Do you use folders before the cloth is inspected to prepare the cloth for this work? Do you finish the cloth as it is made or as you ship it out? In other words, do you store the cloth in the packing room in the finished state or unfinished state? What system of grading do you use for ginghams or other colored goods?

In reply to these questions, I will say that our ginghams come from the loom in 100-yard rolls, and these are folded off into yard folds in the weave room, and our inspector goes through each fold, turning down the corner of a fold where an imperfection is noted. The cloth is then shown to the weaver, if it shows any imperfections, and the proper steps are taken according to the rules.

The cloth is then taken to the finishing room in the fold as noted, and is sewn together and piled on a truck, about 2,000 yards to the truck, and run through the tenter rings. It is then folded off in yard folds, and inspectors go through each fold again and count and cut up into proper lengths. The yardage is marked on each piece with a pencil, together with the inspector's number, and imperfections are cut out into short lengths and bundle goods. We allow two or three imperfections to go into a cut which we call firsts. We finish all cloth as made and store it in the finished state. CONTRIBUTOR No. 4727.

EDITOR COTTON:

This replies to the questions of "CONTRIBUTOR No. 4715" with reference to inspecting and grading ginghams and other colored goods. He first asked whether it is the practice to inspect and grade the cloth before or after it passes through the tenter machine, and in reply I will say that we do our inspecting and grading after the goods pass through the tenters. Also, we use folders before the cloth is inspected and prepare it for this work.

This man next wanted to know whether the cloth is finished as it is made, or as it is shipped out; in other words, whether the cloth is stored in the packing room in the finished state or the unfinished state, and in reply to this I will say that we store our cloth in the finished state. In grading ginghams, we do so by turning the goods through fold by fold.

CONTRIBUTOR No. 4730.

## Slashing and Weaving Broadcloth.

EDITOR COTTON:

This replies to the questions of "G. W. (GA.)" in the January issue of COTTON with reference to the slashing and weaving of cotton broadcloth. This man asks several things, and I will take them up in the order presented.

First, this man wanted to know whether it is practical to run four harness with two harness working together on this goods. In reply I will say that many mills run broadcloth with the first and second harness together, and the third and fourth harness together; two ends per dent, drawing in the harness 1, 2, 3 4. Others run the first and third harness up, and the second and fourth harness down; three ends per dent, drawing in the harness 1, 3, 2, 4.

Secondly, this man wanted to know the definition of staggered cams. This means that each cam is made different so that one thread will follow just behind the other thread from the top to the bottom when the harness opens and closes. This prevents chafing the yarn. The staggered cam is drawn in the harness 1, 3, 2, 4, with two or three ends per dent.

This man wanted to know the percentage of contraction on broadcloth. Say on 100x60 broadcloth, spread 39 with three ends per dent, width 37-9/16, or with two ends per dent spread 38¾, width 37¼. Total warp ends, 3680 plus 40 ends for selvage 30s warp 40s filling. The average percentage of contraction in the warp and sizing is 12½ per cent, and 6 per cent filling. 96x64 to 104x72 is figured by the same system.

This man last wanted to know a good size formula, and I give him one as follows: 66 gallons of water to begin; 100 pounds of thin boiling corn starch and 14 pounds or more of a good sizing compound. Cook 80 minutes. After the size is cooked add warm water to make 100 gallons of size. Have four to five pounds of steam on the cylinders, with 200 degrees in the size box. Have the first lease rod 2¼ inches in diameter.

P. W. (GA.)

## Breaking Strength for 58s/1.

EDITOR COTTON:

In a recent number, you published, signed by "I. P. (N. C.)," a question asking what breaking strength should be obtained on 58s/1 combed filling twist, made out of 1 3/16-inch Strict Middling cotton. According to my experience, this yarn, with 3.25 twist, should break about 36 pounds when made from 1 3/16-inch Strict Middling cotton. This break will probably vary from day to day, between 32 and 40 pounds, but should average over any considerable period around 36 pounds.

This man also wanted to know why it is that the breaking strength on the same number of yarn in the same mill is better at night than it is on the day run. The reason for this is the increased moisture present in the atmosphere. Do you not notice a considerable increase in the break just before and during rainy weather? And when "Old Sol" comes out hot and dry, how the break will fall in spite of all precautions?

P. O. A. (N. C.)

## Causes of Roving Breaking Back.

EDITOR COTTON:

I would like to take part in the discussion you are conducting in regard to the causes of break backs in the creels on spinning frames. I will discuss the subject generally as to the probable causes and offer some general suggestions.

For those who are having excessive trouble in this connection, I would point out that it is probable that, if the roving is breaking back on the small end of the bobbin or when the bobbins have nearly run empty, the breaking may be caused by too much tension on the roving on the speeders. To determine this, I would suggest the following test:

Pick out enough small roving bobbins to creel a spinning frame, or one side of a frame, selecting roving bobbins that would run out in one day. Now, creel another spinning frame with all full roving, and keep a record of the ends down and the break backs on the two frames. This will indicate whether the roving is being stretched when it first starts up on the speeder. Oftentimes speeder hands will move the cone belt to make the ends run tight after doffing, and thereby stretch the roving until several traverses have been run.

Too much strain as the roving passes over the guide rods is another prevalent cause. On some frames the guide rods are too close to the roving bobbing, and when the roving traverse is at the bottom of the bobbin, the roving passes over the guide rod at an acute angle causing strain.

Insufficient twist in the roving is another cause. Of course, the lower the grade of cotton, the more twist is required.

Other points which should be investigated are the following, as any of them can contribute to roving breaking back: Sliver cut by drawing rolls; thick and thin places; clearer waste getting into the trumpets; fly waste blown or fanned into the roving; improper setting of the draft or crown gears, or gears with teeth broken out of them.

The contributor who submitted the original question on this asked those answering it to state whether long or short draft spinning is being used. I cannot see how whether the spinning is long or short draft could have any effect on the roving breaking back.

T. W. (S. C.)

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EDITOR COTTON:

I note that you are publishing some discussions on the causes of roving breaking back in the creels of spinning frames.

There are, in my opinion, a number of local conditions which may cause this trouble, some of which are as follows:

Not enough twist in the roving. (This is not the usual case, however.)

Too much twist on the intermediate, which causes uneven drafting at the fine frame. This extra amount of twist may go back to the slubber.

Extra twist on all speeders may be required on ac-


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count of vibrating floors or creels, vibrating spindles on account of wear, blunt skewer points, worn and rough skewer steps, improper size of roving for the size of machine, too much tension due to the improper tension gear or the wrong bobbin diameter or lay. The speeder tenders may make a practice of moving the cone belt whenever they think the tension is not correct.

Other possible causes are dirty flyers, keeping too much stock on the creel boards for too long a period, an excessive amount of re-worked cut roving waste, etc.

Things that may happen to the roving before it gets to the spinning are mentioned because most always the damage is not done where it shows up, but rather in a previous process, and one should look over the fence and apply a systematic process of elimination.

The foregoing are just long range shots that most carders already know about, and probably none of them will hit the mark, but I offer them for what they are worth.

One thing which strikes me in reading over the foregoing answer is, how much twist for roving is too much? We all say that it should be the least amount that we can get along with, but some mills do not seem to be able to get along with less than a lot.

What I am getting at is that we have standard breaking strengths for yarns, standard speeds, and other standards that we are fairly well able to maintain, and from these to know whether or not we are hitting on "all six" or "all eight," or should I say now, "all sixteen." But when it comes to roving twist, however, the only standard we have is the multiplier times the square root of the hank, and I confess that I do not know what multiplier to use, for the different staples and hanks, that will be to any standard degree of accuracy. If anyone has any accurate information on this point, I would be glad to get it.

B. F. (R. I.)

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EDITOR COTTON:

This answers the question of "CONTRIBUTOR NO. 4775" with regard to the causes of roving breaking back in spinning creels, assuming that the creels themselves are level and that the skewers are in good shape.

We have found that there are several main causes that this trouble can be directly attributed to, and I shall name them in the order of their importance and discuss them in a general way.

First, the twist in the roving should be sufficient to pull the roving on the bobbin from the full down to the empty bobbin. We have often seen this breaking back happen on varied size rovings when it is due to insufficient twist.

Second, tensions as run on the fly frames are maybe about as general a cause of roving breaking back as any other. Particularly is this true when the frame first starts and the ends are allowed to run too tight causing stretched and weak places in the roving itself. In some mills the frame hands are allowed to "take up" on the tensions. This of course is done because the tension gear itself is not right, and whenever it is done almost invariably the ends are taken up too much,


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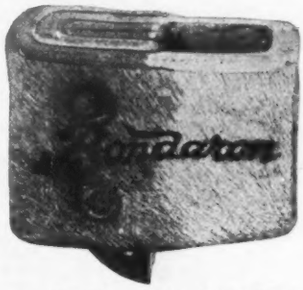


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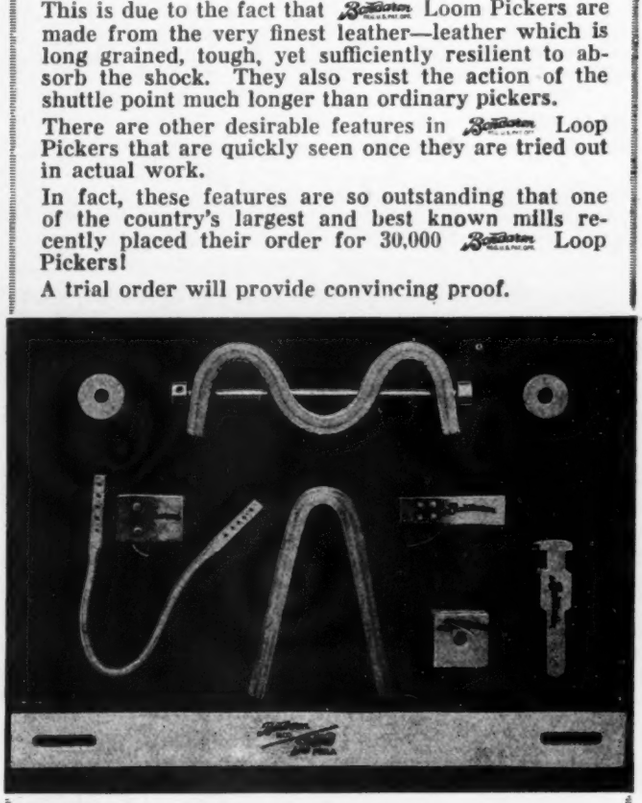

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which causes stretched and weak roving to the extent that it will break back.

Third, we might classify every thin place in the roving due to any number of things in the card room, and frankly I think this is one of the hardest things to put your fingers on, because there are so many places that this may happen, but if there is no trouble experienced in the fly frame creels with breaking back, then the trouble is more than likely to be found on the fly frames themselves.

This contributor asked for some detail figures regarding the number of rovings broken back, etc., taken from actual end breakage tests in spinning. The tests following were made on 1 1/32-inch Middling and Strict Low Middling cotton, making 30s yarn from 6.00-hank double roving and 40s to 45s from 7.00-hank double roving, using a draft of 10 to 12, according to the number.

| Yarn Number | Ends Down Per 1,000 Spindles Per Hour | Number of Rovings Broken Back | Percentage of Roving Broken Back |
|---|---|---|---|
| 40s Filling | 33 | 1 | .68 |
| 30s Warp | 34 | 3 | 2.42 |
| 25s Warp | 22 | 2 | 1.56 |
| 45s Filling | 54 | 6 | 2.6 |
| 40s Filling | 46 | 6 | 4.8 |
| 30s Warp | 43 | 10 | 8.05 |

It should be noted that since the length of time the tests was run and the number of spindles involved are not shown, the actual number of rovings broken back does not tell anything; however, the percentage of the rovings broken back in relation to the total number of breaks does give a fair idea as to just what this trouble generally amounts to.

B. B. (S. C.)

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EDITOR COTTON:

"CONTRIBUTOR NO. 4775" asks a question about roving breaking back on the spinning frames in the creels, assuming that the creels and skewers are okeh.

In almost all cases, where this trouble comes up, the cry is lack of twist, but this is not always the case. The less twist we can use, the better the drawing of the spinning rolls will be.

One of the greatest causes of breaking back is uneven tension on the fine roving frames. This may happen on only a few frames, but when the product of these frames is scattered around the spinning room, it will cause trouble everyhere. The roving frames should be carefully watched and corrected.

Another possible cause is in having the rolls on the speeders set too far apart for the staple being used. If this is the case, it is due to the carelessness on the part of the overseer of carding in not checking up.

A great many speeder tenders have a habit of playing with the rack, and not understanding fully the operation, are continually causing slack and tight ends. The operation of the builder should be explained to the tenders, and at the same time they should be made to understand the after effects in the spinning room. In this way, a man will have better tenders and better roving.

Another cause is having the lay on the speeder bobbins too open. This, with the building of the bobbin, causes the strand to be pressed between the preceding layers, and when unwinding takes place, this strand sticks and causes extra tension upon the yarn or roving and causes it to break.

Another probable cause is not having the bobbin set squarely on the skewer, this causing a motion other than circular, creating more or less strain and causing the end to break.

CARDER (MASS.)

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## Further Discussion on Source of Twist and Traveler Speed.

**The door isn't shut yet, so you can still join in this discussion if you wish.**

EDITOR COTTON:

In the July issue of COTTON, "J. R. (GA.)" asked the following questions:

(1) Which puts the twist in the yarn—the traveler or the spindle?

(2) When does the traveler move the fastest, when the bobbin is empty or full?

In answer to his first question, I will say the spindle puts in the twist. I have heard many men say the traveler puts it in, while others claim that both the traveler and spindle are instrumental in inserting the twist. I do not intend saying the traveler has nothing to do with it, because I think it does—it takes out some twist, or at least prevents it from getting in the yarn. That may sound funny, but just wait and see how a few figures will talk.

Here is a good test for the reader to determine which actually puts in the twist: Fasten the end of the yarn to the traveler and piece it up without starting the yarn around the bobbin. What happens when the frame is started? The traveler stands still with its end of yarn fastened to it, while the front roll piles up the loose untwisted roving. Now piece up the end on the bobbin, not passing it through the traveler, and start the frame. What happens? The end will run a second or two and come down. If you catch this end and examine it you will notice that it has been twisted considerably, even though unevenly. It is now possible to see where the twist comes from. I imagine some are wondering why it is necessary to use the traveler. The answer is to distribute the twist more uniformly, and to wind or assist in the winding of the yarn onto the bobbin. The traveler is really only an assistant in the winding, as the spindle does the winding as well as the twisting.

Now let's assume that we are running a spinning frame on 23s warp yarn, with a one-inch front roll making 130 r.p.m., a bobbin ¾-inch in diameter when empty and 1⅝-inch when full, with 1¾-inch rings and a spindle speed of 8,000 r.p.m. As the contraction of the yarn, due to twisting, will not affect the illustration of the problem, it will not be considered.

Now,

$130 \times 1 \times 3.1416 = 408.4$ inches of yarn delivered per minute by the front roll.

And,

$8{,}000 \div 408.4 = 19.54$ T.P.I. put in by spindle.

The bobbin, running at 8,000 r.p.m., is capable of winding on 18,849.6 inches per minute. ($8000 \times ¾ \times 3.1416 = 18{,}849.6$.) But as there are only 408.4 inches of yarn delivered per minute, the traveler has

to take care of the remaining 18,441.2 inches by being pulled forward by the bobbin and in the same direction as the bobbin. Therefore, the traveler runs at the same speed as the spindle minus the number of revolutions required by the spindle to wind up the yarn delivered by the front roll, this number of revolutions constantly decreasing from empty to full bobbin.

Now to prove that the traveler actually reduces the twist put in by the spindle:

408.4 ÷ (¾ × 3.1416) = 173.33 r.p.m., which represents the number of revolutions of the bobbin required to wind up the yarn delivered by the front roll in one minute. As has been stated before, the traveler must lag behind the bobbin enough to allow the bobbin to wind up the yarn. This amount of lag depends on the number of revolutions required to wind up the yarn, and in the aforementioned case is equal to 173.33 revolutions. Therefore, the speed of the traveler with an empty bobbin would be 8,000 — 173.33 = 7826.67 r.p.m., and this divided by 408.4 equals 19.16 T.P.I., which is the twist actually going into the yarn. Thus it is seen that 19.59 — 19.16 = .43 T.P.I. represents the amount of twist which the traveler actually prevents from going into the yarn.

We can, therefore, arrive at the conclusion that the spindle twists and winds the yarn while the traveler takes care of the difference in the inches delivered and inches which the bobbin could wind on per unit of time. The spindle does the twisting, but the actual revolutions of the traveler is what really determines the final amount of twist inserted. However, without one, the other is of no value, so that is why, I think, we so often hear that it takes both.

Now for the second question. My answer is, the traveler moves the fastest when the bobbin is the fullest. Taking the same frame as used in discussing the first question, I'll let figures prove the answer:

130 = r.p.m. of front roll.
1 inch = diameter of front roll.
8,000 = r.p.m. of spindle.
¾-inch = diameter of empty bobbin.
1⅝-inch = diameter of full bobbin.
1¾-inch = diameter of ring.

The front roll delivers 408.4 inches of yarn per minute, and as it takes 173.3 revolutions of the bobbin to wind up this amount of yarn, it is necessary for the traveler to lag behind by this amount. Then the speed of the traveler for an empty bobbin will be, 8,000 — 173.3 = 7,826.67 r.p.m.

Now it takes only 80 revolutions of a 1⅝-inch bobbin to wind up the 408.4 inches of yarn delivered by the front roll per minute. Thus it is necessary for the traveler to lag behind 80 r.p.m. Hence, 8,000 — 80 = 7920 r.p.m. of traveler with a full bobbin. Or 7920 — 7826.67 = 93.24 r.p.m. = the increased number of revolutions per minute of full bobbin over that of an empty bobbin.

Theoretically speaking, there is more twist in the yarn going into a full bobbin than in the same yarn down next to the empty bobbin.

CONTRIBUTOR NO. 4857.

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EDITOR COTTON:

Which puts the twist in the yarn—the traveler or the spindle? When does the traveler move the fast-


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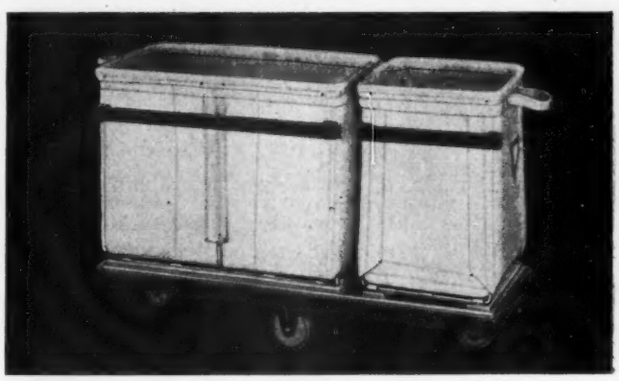

est, when the bobbin is full or empty? These two questions were asked by "J. R. (GA.)".

In answer to the first question, I will say that the spindle puts the twist in the yarn. However, it is controlled by the traveler.

From the time of the first spinning wheel up to our present ring spinning frame the method of putting twist in the yarn has been the same; that is, by means of a revolving spindle.

The method of controlling the yarn and guiding the yarn on the bobbin has varied considerably. With the old spinning wheel this was done by hand. Arkwright used a flyer arm on his spinning wheel for controlling the twist and winding the yarn on the bobbin. Hargreaves' spinning jenny used the customary spindle for twisting the yarn, guiding it on the cop by means of a wire stretched horizontally across the row of spindles.

I believe the traveler has the greatest portion of work to do. The traveler by its lagging motion keeps the proper tension in the yarn and winds the yarn on the bobbin.

In regard to the second question, I will say that the traveler moves the fastest when the bobbin is full. This difference is very slight, but there is a difference.

For the purpose of illustration, we will assume the following:

1-inch = diameter of front roll.
121 r.p.m. = revolutions of front roll.
9800 r.p.m. = revolutions of spindle.
2.75-inch = circumference of empty bobbin.
4.90-inch = circumference of full bobbin.

Assuming the revolutions of the traveler are the same as that of the spindle, less the revolutions of the spindle necessary to wind on the yarn, we have:

$$\frac{380'' \text{ delivered}}{2.75'' \text{ cir. of empty bobbin}} = 138 \text{ turns of empty bobbin to wind on } 380'' \text{ yarn.}$$

9800 r.p.m. bobbin
—138

9662 r.p.m. of traveler on empty bobbin.

$$\frac{380'' \text{ delivered}}{4.9'' \text{ cir. of full bobbin}} = 77 \text{ turns of full bobbin to wind on } 380'' \text{ yarn.}$$

9800 r.p.m. bobbin
—77

9723 r.p.m. of traveler on full bobbin.

Hence we see that the speed of the traveler on the full bobbin is 51 r.p.m. more than on the empty bobbin.

CONTRIBUTOR NO. 4858.

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EDITOR COTTON:

In the July issue of COTTON we were asked two very interesting questions by "J. R. (GA.)". The first was: "Which puts the twist into the yarn on the spinning frame, the spindle or traveler?"

Well, personally, I believe that twist is put in jointly by the traveler and spindle. One is useless without the other and I am in perfect accord with the belief that the traveler performs a considerable amount of the work of inserting twist. I hope the following will show this.

In the first place, perhaps I had better mention that a very peculiar feature of putting in twist on a ring spinning frame is the effect of the winding-on principle upon the twist.

Now I think it is understood by many, and I believe this can be demonstrated, that for every coil of yarn wound upon the bobbin during spinning there is a loss of one turn of twist in the yarn. However, this loss of twist is compensated for in unwinding if the yarn is unwound over the nose of the bobbin. When the yarn is unwound from the side of the bobbin, the latter revolving, the twist loss is not recovered.

I will agree that this twist loss is very small and is generally ignored in twist calculations, though in some cases it is figured. An illustration of a calculation of this nature will enable me to prove that the traveler has a little to do with putting in twist.

Let us take an average circumference of the winding on part of the bobbin and divide this into the inches delivered per minute. The result represents the loss per minute in twist and should be subtracted from the calculated revolutions per minute of the spindles. Then by dividing this latter result by the inches delivered we obtain the actual twist per inch inserted during spinning.

The following is an illustration of the calculations, with terms taken at random:

Assuming that the front roll delivers 400 inches per minute; the spindles make 8,500 r.p.m.; and the average circumference of the winding on part of the bobbin is 2.8 inches.

Then, $400 \div 2.8 = 143$ turns of twist lost in one minute.

And, $8500 - 143 = 8357$ r.p.m.

Therefore, $8357 \div 400 = 20.9$ turns per inch.

The reader will please notice that the 8357 r.p.m. represents the revolutions of the traveler, and it is for this reason that it is apparent that the traveler does help to put twist into the yarn. This does not mean, however, that the twist can be altered by changing the travelers. No, the twist per inch is governed by the twist gear, the speed of the front rolls and spindles. Still, in true and correct twist calculations we have to consider loss of twist and the speed of the traveler. The latter, of course, proving the traveler's importance in the matter.

Our contributor's second question was in regard to when the traveler moved the fastest, when the bobbin is full or empty. I believe the traveler moves faster on every additional layer that is wound on the bobbin, as the drag is somewhat lessened as the bobbin builds. I also believe the traveler increases in speed as the rail nears the top of a warp wound bobbin, for the rail usually runs up faster as it nears the top of the bobbin.

On filling wind, the traveler must have a varying speed as every layer is being wound on; that is, the speed must vary during the winding on of each separate layer.

D. E. (R. I.)

## Ring and Traveler Sizes for 50s.

EDITOR COTTON:

Recently "CONTRIBUTOR NO. 4667" asked what is the largest size ring that is practical to use in spinning 50s warp yarn, with 4 × square root, made from 1 3/16-inch staple, without injury to the yarn.

I am only able to tell you what my experience has been with this number, made from the cotton mentioned. Our yarn differs slightly from his, as we use 3.75 × square root, and the yarn is combed. We are making a very satisfactory yarn with the following conditions:

We use a 1⅝-inch No. 1 flange ring. This is as large as I would want to use. The diameter of the bobbin is ¾-inch, and the size of the traveler is 80/0, round point. Ten travelers weigh 5¼ grains. I am sorry I am unable to give the circle of this traveler. The length of the traverse is 6½ inches, and the yarn is made from 7.00-hank double roving, which is a very long draft. The bobbin is run on filling build. The cone on the bobbin is 1½ inches, and two ounces are put on the bobbin. The yarn runs very well and has very few end breaks and the speed is rather high.

I do not make so much of this number, and I use a 7.00-hank roving because the majority of the mill is on 36s, and the roving is made to best suit the 36s. If I had a larger number of frames on 50s I would use a finer hank roving.

O. G. (N. C.)

## Preventing Good Stock Going to Dust Room.

**Answering a question which reported too much good stock showing up in the dust room. Have you had this trouble?**

EDITOR COTTON:

I note the problem of "H. F. (N. C.)" who states that he has a horizontal cleaner, with a No. 6 fan and condenser; and that he has trouble with good waste going to the dust room.

He gives very little information upon which to base a reply, but perhaps I can help him by giving him my own line-up in our picker room. We have two of this type of machine running in tandem, and I do not believe that this machine has anything to do with the waste going to the dust room, unless this machine is so rigged up as to deposit the motes from itself direct to the dust room. The motes made on our machines are deposited in a receptacle connected at the bottom of the machine. These receptacles are opened once a day, just as we clean out our motes from the pickers regularly, and these motes are put in with the regular picker motes and are willowed.

With reference to the good stock which is going to the dust room, there is in my opinion hardly any way for it to go except through the condenser or picker screens, and the condition of the screens and the speeds of the fans control this to a very great extent.

I will give our own line-up. Our first Murray machine runs 530 r.p.m., and the second runs 565 r.p.m. We have our opener room about 300 feet from the picker room. The condenser fan speed is 1,450

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r.p.m., and the main cotton fan speed is 1,450 r.p.m. We have a 3-blade beater in the breaker picker that runs 960 r.p.m. The 2-blade beater on the breaker picker runs 1,270 r.p.m. The fan that takes care of the cotton at the front of the breaker screens makes 1,100 r.p.m. We have two processes of picking, and the beaters in the finisher picker make 1,150 r.p.m. with the fans running at the same speed.

Some few years ago, we applied a strip of leather for the screens, which just fit the walls of the machines, and at the same time fits the circle of the screens, so that there would not be any good cotton escaping through the ends of the screens. Since we put these on we have not had any trouble with losing good stock in the dust room. We run an 18-ounce breaker lap, and a 10¾-ounce finisher lap, making a 45-grain card sliver for 30s and 40s yarn.

My first suggestion to this man would be that he get his speeds in line. Of course this is governed to some extent by the manner in which the discharge is discharged in the dust room. Some have a long curving route to make, but at present my own discharges directly through the floor and opens into the dust room. The next thing I would suggest is to see that the screens are not leaking, and that the ends of the screens are protected from losing good stock.

## Causes of Hard Ends on Intermediates.

EDITOR COTTON:

This is in answer to the question of "CONTRIBUTOR NO. 4726" with reference to hard ends on intermediates. He said that he runs 15/16-inch cotton and sets his steel rollers 1 1/16-inch. He makes a 1.16-hank roving on these machines, out of .50-hank slubber roving. He said he does not have trouble with hard ends on the slubber. The weight on the front shell roll is 16 pounds, and on the back and middle it is 18 pounds. The amount of twist in the slubber roving is .847.

I might mention in answering that hard ends result probably from excessive twist or longer staple coming through in the stock. This man might consider this subject first from the standpoint of the twist. Assuming that he can maintain a fairly constant humidity around his intermediates, can he reduce his slubber twist, still securing good running at his slubbers, without breaking back in the creeled intermediates? He does not state whether he has tried to reduce his slubber twist, and this must be worked out in his own plant, as no one can tell directly what twist should be put in for any operation in any given plant, as conditions vary so much. He should be sure that the skewers in the intermediate creels are all in good condition before trying out a reduction of twist, otherwise he might reduce his twist and have breaking back in the creels, or he might not reduce it as much as he would if the skewers were in good condition.

He should also check up on the slubber tenders, when they piece up broken ends, for if an operative twists the end excessively or makes a "wet piecing up," it is very apt to be a frequent source of trouble. The more end breakage at the slubber, the more piecing up is necessary, so anything that would improve the running of the slubber is apt to prove an aid in the next operation.

It should be borne in mind that if this man's slubber roving increases in weight or drops below the .50-crease in twist, so he must follow his sizing very closely. It might be pointed out that he could increase in weight a shade on his slubber roving, reducing his twist proportionately with a heavier hank roving, increasing his draft slightly on the intermediates, without affecting the appearance or breaking strength of the yarn, and this might perhaps aid in the solution of the trouble of hard ends on the intermediates. He might also try a shade wider setting at the intermediates, and note the effect as to hard ends, appearance and strength of the yarn.

Hard ends usually mean that drafting is not taking place. Too much twist tends to prevent drafting. Longer staple in with short staple may cause hard ends, but I am inclined to think that this man, since he does not have any trouble with hard ends on the slubber, will find his difficulty to be a proposition of twist and size. I do not believe it would be necessary to alter his break draft, and it seems that his rollers are oiled all right.

Another point that might be mentioned is that he should make sure that he secures as long a traverse as possible on his roving traverse so as to lengthen the service life of his leather rolls and prevent wearing in any one spot.

S. H. (R.I.)

EDITOR COTTON:

In the May issue "CONTRIBUTOR NO. 4726" stated that he is running 15/16-inch cotton, has his steel rolls set 1 1/16-inch, is making 1.16-hank roving out of .50-hank slubber roving, has a break draft of 1.067 between the back and middle rollers, is putting in .847 turns of twist in the slubber roving, and is having trouble with hard ends on his intermediates. This is on a 10 x 5 frame. As I have also made a 1.16-hank roving on these frames, I hasten to give my settings and comments, hoping that I may be of some help to "CONTRIBUTOR NO. 4726" and others.

My layout is, slubber roving, .50-hank; roving on intermediates, 1.16-hank; setting between front and middle steel rolls, 1⅛-inch; setting between middle and back rolls, 1⅜-inch; weight on front roll, 14 pounds; weight on middle rolls, 10 pounds; weight on back rolls, 8 pounds; twist in slubber roving, .802 turns per inch.

"CONTRIBUTOR NO. 4726" has more weight on his rolls than I have, and his lightest weight is on the front roll, as he stated that the weight on his front shell rolls is 16 pounds, while that on the back roll is 18 pounds. I would advise him to put the 18 pound weights on the front and middle rolls and the 16 pound weights on the back rolls.

As to settings, I have always found it good policy to set the rolls on intermediates at least 3/16-inch wider than the staple.

I had a little trouble with hard ends on my inter-

mediates some time ago, and found that the trouble was due to a new slubber tender. As soon as he was instructed to piece up properly, the trouble disappeared.

I believe that if "CONTRIBUTOR No. 4726" will try my settings and change the weights as I suggested, his troubles with hard ends will soon be over.

KY. (MASS.)

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EDITOR COTTON:

I noticed the question of "CONTRIBUTOR No. 4726" concerning hard ends on intermediates, and I will try to give him some information that might be of help along this line.

He said that he is using 15/16-inch cotton and has his steel rolls set to 1 1/16-inch. If he will do some checking up along this line, I think he will find that he is probably on the wrong track somewhere. Of course, we all get that way sometimes in spite of the fact that we know what our trouble is, by just overlooking a few simple little things. I noticed closely that this man says he has more trouble in rainy or damp weather than at any other time.

It seems to me that his cotton and his rolls are not working together as they should. If his cotton is harsh and wiry, he should have a wider roll setting than with cotton that is smooth and silky, because it would be harder to pull out.

Another thing about his trouble is the roll setting. He probably has overlooked the fact that his rolls are too close for 15/16-inch cotton. Because if he will look up the rules governing roll settings, he will find that for his cotton the rolls should be set wider than he has them set.

I have had little experience with the problem he mentions, and the way I overcame it was to widen my steel roll settings to the point where the hard ends stopped coming through.

In addition to the length of staple being used, there are several other principles that should be considered in setting rolls. Rapidly revolving rolls require wider settings than those on slow speed, since with a slow speed the rolls can be set closer together and yet the fibers would be given a sufficient length of time to be drawn away from the mass of cotton without being strained. From this statement, the conclusion should not be drawn that since the front pair of rolls in any frame revolve faster than the back pair of rolls, that the front rolls should be set further from the middle rolls than the back rolls, for this is not so, as other circumstances which have to be considered compensate for that of the speed of the rolls. Since the speed of the rolls increases with each pair that is nearer the front of the machine, the cotton as it passes through the rolls is greatly diminished in weight per yard from back to front, and since it is much easier to draw the fibers past each other when there are only a comparatively small number of fibers than where there are a large number, the two pairs of rolls that are nearer the front would have less space between them than the rolls at the back. For this reason, the space between each two pairs of rolls in a set increases from the delivery roll to the feed rolls. For example, if the staple of the cotton being used on a drawing frame is one-inch, the distance between the front and second pair of rolls might be 1¼-inch, between the second and third, 1⅜-inch; and between the third and back, 1½-inch.

Notwithstanding the fact that your contributor undoubtedly knows the rules governing roll settings, I am giving this information, and I hope it will help him to brush up and that it will be of service.

J. O. B. (N. C.)

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EDITOR COTTON:

This is one more reply to the question of "CONTRIBUTOR No. 4726" with regard to the causes of hard ends on intermediates. This man said that he is making a 1.16 intermediate roving from .50-hank slubber roving. He seems to have about the correct amount of twist in his slubber roving, that is .847 or 1.20 × the square root of his .50-hank roving. Also, he has a draft of about 4.64 on the intermediates, which should be all right. His break draft is 1.067, which is about standard. He said he is using 15/16-inch cotton, and with a reasonable amount of twist in his roving and a reasonable draft on his intermediate, he should not have hard ends if everything else is right. I would suggest that "CONTRIBUTOR No. 4726" check over his slubbers, especially if they are old ,because he is likely to find the gear on the top cone shaft has been changed on one or more slubbers, which of course would give a different twist constant. I would also suggest that he examine his finished drawing sliver very carefully, as he may find that a great many of the fibers are considerably longer than 15/16-inch, which should be more carefully looked after before the bales are opened, or else it will be necessary to spread the front and middle rolls, top and bottom, to more than 1 1/16-inch, as he is now doing. He did not say how his middle and back rolls are set, but I would say that 1 7/16 to 1½-inch, center to center, would be about right.

If the slubbers will run all right with less twist and the roving is not breaking back at the intermediates, this of course will help.

If "CONTRIBUTOR No. 4726" is sure that no slubber tender is making hard ends, and will see that good top rolls are kept in the intermediates, and will try out the suggestions I have offered, I do not believe he should be bothered with hard ends on his intermediates. If the foregoing should fail to relieve the trouble, then I would suggest increasing the distance between the front and middle rolls.

H. L. (S. C.)

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EDITOR COTTON:

In reply to the question of "CONTRIBUTOR No. 4726," who is having trouble with hard ends on his intermediates, I must first of all suggest that he take one or two teeth of twist out of his slubber roving, which I imagine must be too hard, and I am convinced of this particularly because he states that he has more trouble during damp or rainy weather. Well, of course, we know this, that even if we happen to have too much humidity in the room, and we are running roving with too many turns per inch, our drafting is not helped very much.

That is the first step. Take out twist to enable the roving to be properly drafted under all conditions. The next point is the condition of the weight saddles. Are they worn or grooved, the latter condition providing a brake for the back and middle roll? If this condition exists, the saddles should be all filed and the grooves taken out. Of course, maybe I ought not to mention hollow or grooved rolls, though sometimes this point is neglected.

I also imagine that our friend could do no harm by at least spreading the setting between the back and middle steel rolls, and also setting the top front rolls slightly forward.

Are the roller traverse motions working properly? I mention this because sometimes after rolls have been taken out for scouring, or when they have been disturbed by setting, the traverse motion is not properly geared and will have a tendency to skip and refuse to give the lateral movement required.

Another point to watch is the piecing up of ends at the slubber, because wet fingers give hard piecings and the latter do not draft very good.

But the thing is to get the slubbers running with a minimum amount of piecing up, and this means that the drawings need strict supervision in every way.

I wish to inform our friend that I am running .50-hank slubber roving from 7/8-inch to 1-inch stock with a 42-tooth twist gear on Whitin frames, and making a 1.30-hank intermediate roving for 4.20-hank fine frames, and we get very few hard ends if any at all; and that is what makes me think that "CONTRIBUTOR No. 4726" is putting too much twist into his slubber roving.

It seems to me that most of this contributor's troubles are caused by the amount of twist used and the draft employed in this particular case. Of course, I do not know this man's layout, that is in the matter of machinery, and maybe it is necessary for him to juggle with the twist in order to balance his production. But it seems perfectly evident to me that he is using too much twist in his slubber roving to draft a 1.16-inch hank intermediate roving. According to his letter, he is making a 1.16-hank intermediate roving from .50-hank slubber roving, and the slubber roving has .847 twist. As I have previously stated, two teeth less twist would improve matters a great deal, and I would advise him to try this before altering the draft.

Regarding the draft in this case, it is not long enough, in other words, I believe our friend would do better by using a .45-hank slubber roving instead of a .50-hank slubber roving. He ought to be drafting 5.2 to get good results.

It also occurs to me that his break draft of 1.067 between the back and middle rolls on his intermediates is too short, and the back roll gear and the gear on the end of the middle roll ought to be examined and counted. On a Whitin frame, these gears are: back roll, 56-teeth, middle roll, 20-teeth.

I notice further that "CONTRIBUTOR NO. 4726" has the steel rolls set 1/8-inch over staple length. This is good sometimes, but if I were in his place, on the 15/16-inch cotton, instead of setting the steel rolls to 1 1/16-inch, I would set them as follows: Back to middle roll, 1½-inch; middle to front roll, 1 3/16-inch.

This man further stated that he is oiling his rollers on Monday, Wednesday and Friday. He certainly believes in using plenty of oil, and perhaps he is using too much and the surplus is finding its way into the flutes of the steel rolls, thereby eliminating the slight grip necessary to draft the roving.

Now, I want to make this point clear when I say too much oil on rolls may cause trouble. You know, rolls will only carry just enough at one time, and the surplus will find some way out, usually picking up all the nearby lint around the rolls, and the two together create a dirty substance which clings to the flutes or serrations of the steel rolls, and of course, dirty flutes will allow the fibers to glide instead of being gripped for drafting.

In closing, I might say that in case this man happens to be using cork rolls, he should set his front rolls at least 1/16-inch to the front more than when using leather rolls. I sincerely hope that he will be benefitted by my suggestions.

D. E. (R. I.)

## Brown's Answer on Oil Spraying.

The concluding "argument" in the debate with "Wash" on this subject.

EDITOR COTTON:

Replying to the article by "Wash" in the August number relative to my remarks on Oiling Cotton, it is apparent "Wash" is not familiar with the subject. I would like to outline the difference between his understanding of an old situation and the improved, present day practice.

"Wash" gives two reasons for making up his mind several years ago as regards oil spraying. First, he states "I prefer humidity to oil because the moisture in all fibers adds weight, pliability, elasticity, and flexibility, thus making the fibers easier to manipulate."

The answer to this is that oil and humidity are too closely connected to offer any controversy as to their respective merits in textile manufacturing. Both are fundamentally correct in principle. Humidity can not accomplish the claims made for oil, neither can oil displace humidity, yet, the two in combination do accomplish what neither can do alone. Due to atmospheric conditions, both inside and outside the mill, the moisture content of cotton will vary, regardless of any artificial humidifying systems. Therefore, if "Wash's" "addition of weight, pliability, elasticity and flexibility" is correct, it must follow that there is a variation in this physical property as the cotton progresses through the mill from day to day. This difference of moisture affects the weights of the slivers and the numbers of the yarn. Oil reduces this variation because it "stays put." A mill using oil will experience less than half their trouble keeping yarn numbers to size. In order to fully appreciate this, remember that humidification is nothing more or less than lubrication, from a manufacturing standpoint. If the fibers worked better bone dry, there would be no objection (aside from regaining the natural moisture content to the finished yarn) but they do not. They flare out, breakage increases, static is abundant. The fibers need something. It is lubrication. Water is a lubricant and so is oil, but the latter is so powerful, it must

be used sparingly and with a greater degree of intelligence. Water (humidity) makes the fibers pliable, elastic, flexible; so does oil. The theory is that if the right oil is used, not too much, but sufficient to take care of all friction, then humidity would not be needed. This is perhaps true, but cotton is hydroscopic, therefore water constitutes part of its structure at all times, more or less. (It is well to point out here that the lubricant used for spraying cotton is not an ordinary oil.) To be successful, it is evident a lubricant must meet this hydroscopic condition and not interfere in any way. The various conditions a lubricant must meet in a cotton mill is a subject too broad for discussion here. However, it can be stated that the "Regain Tables of Hartshorne" have no bearing on the subject. The fibers absorb moisture at the same rate and once normal, the oil does help to retain it, which partly accounts for the better running qualities of the cotton.

Under the same objection "Wash" is also careful to point out that oil is a poor conductor of electricity, like dry fibers, which he says, are such poor conductors they are easily susceptible to being so electrically charged as to render manipulation difficult, whereas the presence of moisture in fibers renders them good conductors. Unfortunately a cotton mill is more or less an electrical plant, insofar as static is concerned; but the problem is not a question of conducting the electricity as it is preventing its creation. If sufficient lubrication is available at all times and under all conditions, there would be little static electricity. Whether it is water, oil or milk of magnesia, bad, poor or non-conductors, it is a question of the best lubricant and method of application.

The second reason for "Wash's" prejudice against oiling cotton, is, as he states, "The ingredient does not hold together." "At one time you add more oil than at another time." "The oil continually works to the top of the tank, which alters the percentage, etc."

I will admit these objections were justified and perhaps true enough, five years ago. The admission also confirms our remarks at the beginning of this article, namely: "That 'Wash' is not familiar with the subject," else it would behoove him to doubt the value of oil in a cotton mill, as it is practised today.

The process was first started in 1924. It was then and is yet an attempt to put an old idea into practical use. The idea is at least a hundred years old. I know, personally, men who are much older than myself, who have told me they made attempts to spray oil on cotton when they were young men, about fifty years ago. One whom I recall, said he ran some cotton that had remained with the seed six months before ginning. It ran so well they were astonished and could not account for the fact, until they discovered the cotton seed oil had permeated the mass of cotton. They endeavored to duplicate the results on raw cotton by sprinkling cotton seed oil on the fibers, but with little success. Another told me, he often used the oil-can on the back of the cards, long before our time, and if "Wash" is an "all-around man" perhaps he has had a similar experience. However, the first three years of oil spraying may be considered an experimental stage. I figure "Wash" was caught during this period, because he

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states, "he made up his mind years ago" or I judge about 1925 or 1926. During this experimental period, I doubt if the manufacturers of the spraying process knew much, if any, more about it than the mills. But, they had a fundamental idea and stuck to it.

The mechanical equipment is entirely different and cannot be compared to the old any more than a new flivver can to a Model "T". The lubricant has been adapted to meet various spinning conditions. Like everything that is good, it takes time to perfect it. I am sure "Wash" would not be bothered on Monday morning, neither would he have a tank wtih a cover to raise. In their place, he would find an up-to-date system that works satisfactorily.

The last paragraph "Wash" says, "No man can justly accuse "Wash" of not having given great weight and thought to every article he has written for this department since 1913." I would not intentionally direct accusations at any one, but as a matter of self defense, I implore "Wash" to step out and investigate "oil spraying cotton" in this year of 1930.

JOHN J. BROWN.

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## Comments on "Old Timer's" Article "It."

An Englishman gives his views on this all-important subject on which "Old-Timer" has started you to thinking.

EDITOR COTTON:

I read the article "It," written by "OLD-TIMER" in the January issue of COTTON, with a great deal of interest. My opinion is that "It" plays a very important part in our everyday life.

The story brought to memory an old carding overseer that I used to work for in England. This man had plenty of "It." He often remarked to me that work was hard enough without being bullied. Therefore, when he wanted anything done, instead of trying to be dogmatic and demand a person to do this or that, he always asked them if they would mind doing it. Yet, he was diplomatic enough to never lose any of his influence by so doing.

I have never known it to fail. If we go to a person and demand something of him, we will not get as good a response as we would have if we had asked him if he would mind doing it. Human instincts simply cause a person to balk at being driven. A kind word now and then will work wonders.

I certainly believe it a good policy for an overseer or superintendent to have a cheerful "good morning" for his help upon first meeting them in the morning. It will make the day seem just a little brighter to them, and they will tackle their day's work with much more enthusiasm than they would have otherwise.

When "OLD-TIMER" gets in a humorous mood I am often reminded of two tales I heard in the old country. They were told by some of the old spinners who were gathered together, as they often did, in one of the parks spinning yarns (not cotton ones, however). One of them told of the days when he used to send his helper out to get the pigeon from the coop and make him walk a certain distance from the coop before releasing it. The spinner said that during this time he was standing at the window timing his helper, and this was before the days of increased production.


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Another told of how one day he had quite a few figures on the wall and the overseer happened up and asked him what he was doing. The spinner said he had been comparing the pay he received when he was working on a hand mule, which only had a few spindles, with that that he was receiving for working on the self-acting mule with a large number of spindles and that he had found there was very little difference in the amount. He said he thought he might be able to figure out by proportion just how long a pair of mules would have to be for him to receive nothing for his work.

Talking of old times brings back to memory the pair of scales we used to have along the side of the picker and the lattice of the picker marked off in yards. We had to weigh the cotton and spread it evenly between the lines. What would the efficiency experts think of this today?

The days of competition that we are enduring at the present time cause all of us to be more or less on the alert to see if we can't bring the cost down. However, a lot of the practices that we are seeing manifested today are not, as so many seem to think, new. Many of them are old ideas, having been tried at one time or another in an effort to obtain a more even or stronger yarn.

CONTRIBUTOR NO. 4708.

## Little Things in the Cloth Room.

**This man tells of some things he discovered. Others are invited to do likewise.**

EDITOR COTTON:

The writer has been trying to think of something he could write that would be of interest to the readers of COTTON, and he finally decided that it might prove interesting and beneficial to some readers to discuss his own troubles.

Sometime ago we had a complaint from one of our customers about little holes in the cloth which appeared near the selvages and would only puncture about one thread in the warp, and one in the filling in the cloth. These could not be detected by the inspector on the inspecting machines; they were only discernible at the finishing plant where the cloth was finished. We hunted all over our machines, rollers, brushers and the rollers on the brushers in an effort to find little pieces of metal that might be sticking up on the rollers that might cause this and at last we found the trouble on the roller behind the folders. The cloth going over the roller prevented us from discovering it, but taking one roller at a time on the machine we found it. Of course after we found this we took care to see that all the nails and other metal substances put on the rollers in covering them were pulled out. Some of the rollers were covered with mill cloth, while some were covered with card cloth which had the teeth all pulled out. We have experienced no difficulty with holes in our cloth since doing this.

During the regrading of some of the cloth we had on hand we found by the inspection and grading tags that there were some inspectors and graders who had not done their duty, so of course we spoke to


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them about it. These things come up in all mills, and it is just another example of things slipping by when they are least expected. The moral is, "never get bit by the same snake twice."

The cloth room, or the finishing room, is the last place for us to find these little evils before the cloth gets to the customer, and if we don't want him raising cain we had better find them.

Some people think that when the market goes wrong their customers begin finding fault. There might be something to this, but I believe in the majority of cases it is due to the fact that we are letting little things slip through that should be caught. So if we just watch a little closer for these little things, I believe we will find that we will have much better satisfied customers.

CONTRIBUTOR NO. 14.

## The Second Hand—Some General Duties.

### PART FIVE.

THIS is the fifth and last of a series of articles discussing the second-hand. The first covering his relation to labor turn-over, appeared on page 805 of the May 1929 issue; the second, discussing his qualifications and selection, was on page 1291 of the September 1929 issue; the third, covering his relation to labor cost, was published on page 441 of the February 1930 issue; and the fourth, covering his relation to machinery upkeep, appeared on page 665 of the April 1930 issue. Clippings of the preceding installments will be furnished to those requesting them.—The Editor.

EDITOR COTTON:

Sometime ago the writer overheard an overseer ask a second hand what kind of traveler a certain doff of yarn was made with. He replied that he did not know, yet he was second hand of the department that made the yarn! A superintendent asked the second hand of the weave room about a loom that was making some bad cloth. His answer was that this was the first that he had heard about it!

What is more exasperating than to have someone who is paid to know about such things give replies like these? Cases like the ones cited are some of the reasons why the second hand should be out in the room and in close touch with what is going on. The second hand should be relieved of all non-essential detail work to allow his mind absolute freedom for concentration upon the problems of handling the help, getting production, watching quality, looking after the machinery, etc.

In small departments the overseer can look after the most of the details of office work pertaining to the room, but in the larger departments it is best to have a timekeeper. This allows the overseer more time to be about his room. But, by all means, do not tie the second hand up with office work. In the first place it is not fair to him to require him to do a bunch of office work and then hold him responsible for what is going on outside. And it furnishes him with an excuse to hang around the office when really there is no need for it.

Now, do not understand me to mean that the second hand should not keep in touch with what is going on in the office of his department, for he should. In fact, I seriously doubt his being able to run his job intelligently if he does not stay in touch with the office end. He should know and be able to do the work of anyone connected with his office. This helps to keep him out of a tight when the overseer is out. If the overseer is on the job practically all of the time it would be well for him to swap jobs with the second hand occasionally to keep the second hand from getting rusty on the clerical work. (And by the way, it gives him a splendid chance to find just how things are going in the room.) Any orders from the main office or from the superintendent should be gone over with the second hand to keep him posted at all times as to what is going on. If his department is one that is likely to receive orders from any of the other departments, or complaints, especially in writing, the second hand should drop in the office occasionally to see that nothing of an important nature has been overlooked.

The second hand is the logical man to mark time, that is, the hours each person in his room works. But as to the actual detail of each man's work, especially piece work, this should be done by someone else. However he should supervise all checkers or scale men or others who look after the actual detail of any piece work. If any errors in their pay are reported by any of the help to the second hand he should promptly and cheerfully look into the matter and make the necessary adjustment.

The second hand has been called "the overseer on the floor." This he is, if he really runs his job. The help should never be made to fear any of the officials, but that the presence on the floor of someone in authority does have the effect of making folks a little more attentive to the job cannot be disputed. If we would only admit it the truth is that this applies to most overseers and second hands, also.

That the second hand should not have too much detail or red tape to his job does not mean that he should not apply system to his work, for the contrary is true. There are certain routine matters that he necessarily must do that he should have certain hours or certain days for doing. As I mentioned in a previous article the afternoon is generally a good time for his machine inspection. He should have certain hours for checking over his humidifiers to see that all the heads are on. He should make regular trips to each machine looking for something wrong. And, brother, if you will walk about with your eyes open you can generally find plenty of things wrong. And by way of passing, it is the little things, the things that so often pass unnoticed, that so often get a fellow in "dutch". In other words, have your job so systematized that nothing of importance will likely be overlooked.

The second hand should for obvious reasons keep the overseer informed as to anything that has gone wrong. The superintendent may ask him for an explanation of some matter that he personally knew nothing about. But if the second hand has kept him posted then he can give a ready answer and possibly save himself a bawling out. Any superintendent appreciates an overseer and a second hand who knows

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about what is happening in their department. In fact they are the only kind that are worth a "cuss" to their company. There are some second hands, and overseers too, who seem to take for granted that just because they have given an order for something to be done that they have relieved themselves of all further responsibility. When the second hand gives instructions for something to be done, he should, without fail, check up to see whether his orders have been carried out. Try it, if you are not already doing so, and see if your men do not have more respect for your orders. Never take anything for granted.

Some overseers are a little negligent about telling their second hands about things, sometimes of vital interest, pertaining to the job or concerning changes in mill policies. This will often put the second hand in an embarrassing situation. At one mill the superintendent, realizing that this was true—or perhaps the suggestion was made to him by an old second hand—began a weekly meeting of all the second hands. Either he or the assistant superintendent presided at these meetings. Here special instructions were given, mill policies made known, departmental and interdepartmental problems discussed and, of course, frequently just a general "bull" session held. These meetings served to bring the superintendent and the second hands in closer touch with each other, thus breaking down a wall that might otherwise exist between them. It also furnished the superintendent an opportunity to study and learn more about his "future overseers." This man also said that because the second hands were closely in touch with the job, that he could find out much more about the condition of things from them than he could from the overseers. This meeting is still continued at this mill, except that it is held only once every two weeks.

There are two other things that should be mentioned in connection with the second hand that are so plain that they require very little elaboration. The first is, "back your judgment" and do things without hunting up the boss every time to see what he will say about it. The second is, look for and take care of the little things that may be going wrong before your superior has to call your attention to them. Let this paragraph soak in even if you miss the balance of this article.

CONTRIBUTOR NO. 4022.

## Cloth Room Comments.

EDITOR COTTON:

A recent discussion of cloth room questions in your magazine caused me to decide to send in a few thoughts along the same line. My remarks will be based upon rather extensive experience in connection with cloth rooms.

In regard to folder speeds, I have found that we make the best looking bolt by running our 40-inch folders 110 yards per minute. However, the quality of work depends more on the operator than on the speed of the folder.

Sometime ago a mill where I was employed as weaver making high grade suitings of cotton and silk mixtures received a letter from a new customer telling them that the cloth he had bought measured 7 to 15 yards more than the invoiced yardage per bale. I happened to be in the office and the superintendent mentioned the letter to me. We then put in to find the trouble. The cloth room man said someone had just made an error in the yardage. However I had read in COTTON where one man had checked his folders and found where his company had given away thousands of dollars, so I mentioned this to the man in the cloth room. Yet he was not in favor of doing anything, so I took the matter up with the superintendent. He checked the folders and found one with a stroke of 36¾ inches. Of course this was corrected at once. Now how much had this man given away during the 15 years he had been with the company? I do not know, but I do know that he is not in charge of the cloth room now and carelessness is the reason he is not. For a man to hold on now he has to be on his toes all of the time.

I am another who does not believe it good practice for a weaver to have charge of the cloth room. He has no more business in charge of the cloth room than he has in charge of the card room. I have tried it, and I know that it places a man in a very disagreeable position. He will certainly take chances to hold down his seconds.

I have always been very lucky with seconds. If a fellow stays right after his job all the time and gets the proper co-operation he won't have many seconds, but he will have some. However, if he is in charge of the cloth room and has a bad week, and we all have them, he will pass up things that should not pass and sooner or later there is a fly back from a customer.

I would much rather the superintendent would ride me about seconds being laid out than to have a complaint from a customer. Therefore, I would say put a reliable man in the cloth room and allow him to have full charge. I also think it's a mighty good idea for the superintendent to look around in the cloth room every now and then, for this room either makes or breaks the company.

G. W. (GA.)

## Report of Charlotte Discussion.

(*Continued from page* 12.)

A very simple way is to make a swab on the end of a stick, and swab them out, said Mr. Dilling. "As you push that down the oil will come out, and as you pull it out it will bring the oil out with it." Mr. Splawn said that he uses a regular automobile pump, and then he uses an alectric pump and cleans out with about ¼ gasoline and ¾ spindle oil.

"What is the best size of hank roving to use for making 30s yarn on long draft spinning?" Mr. Tatum asked.

J. S. Lockman stated that he has a sample frame on long draft and is making a 4.09-hank double roving into 30.25s yarn, 8-inch bobbin, 6½-inch traverse, 144 r.p.m. front roll speed, with a draft of 15.34 and a twist of 25.94.

Mr. Tatum asked then "What is the best hank roving for use in making 40s filling on long draft?" George W. Ray stated that he uses 6.00-hank double

roving for 40s yarn, with a light un-weighted middle roll on the spinning frame.

Mr. McCombs wanted to know which is the cheaper practice, spooling from filling wind or spooling from warp wind. Mr. Lockman said that spooling with the shuttle is cheaper, although another man said that he had found it cheaper spooling from filling wind with the proper kind of tension device, as he gets less weight. Mr. McCombs said that he knew of a plant that had changed 35,000 spindles to filling wind on 18s yarn, increasing the production in the spinning room, but the spooler hands who had previously spooled 28 boxes had not been able to get over 23 boxes with the filling wind method. This discussion concluded the morning session. The spinners had lunch with the Charlotte Civitan Club, and George A. Sloan, President of The Cotton-Textile Institute, who was in the city attending another conference, spoke briefly at this luncheon concerning the activities of the Institute.

### Afternoon Session.

The afternoon session, held in the dining room following the Civitan luncheon, was devoted mainly to a discussion of methods of cleaning the machinery in the spinning room. The first question, however, pertained to cloth for spinning frame rolls. The chairman first asked for experiences with the all-wool type of cloth. Mr. Johnson of Dunean Mills, stated that he uses this and has no difficulty with its slipping. F. D. Lockman of Lockhart stated that he had tried the all-wool blanket but experienced difficulty with it powdering, and several other men reported the same trouble. Mr. McCombs brought out that if the cloth has a finish on both sides that it will pulverize or powder more quickly.

"Is it practical to use over one cot to the cloth?" asked the chairman. Mr. Lockman, Mr. Splawn and Mr. Johnson all agreed that this was not a practical thing to do. Mr. Splawn pointed out that "it depends on the speed of the roll, etc. Most of our speeds on fine work are very slow."

### Method of Cleaning Spinning Frames.

"What is the best method for cleaning spinning frames?" was the next question asked by Mr. Tatum.

"I think that air in its different forms is best," said J. S. Lockman. "The only form I have is blowing off. I do not think that this is the best way. I believe that a vacuum cleaner is what we need."

"Undoubtedly," agreed the chairman. "I think there is a fortune to be made in a practical vacuum cleaner for cotton mills."

Marshall Dilling next described the system he uses, stating that, "I think the best system, above the guide board is the overhead blowing system." Asked to describe this, he continued,

"You have a trolley or track overhead, over each line of spinning frames, and this cleaner travels around on that. It has a fan with blowers that direct the air down each side of the spinning frame, blowing down through the creels and clearer boards, guides, etc. You have to run a brush through about twice a day on fine work, and wipe out your creels about once a week.

"This cleaner takes care of all the loose fly that accumulates and it must come around often enough to keep it from accumulating. On average numbers, about every ten minutes. It eliminates much of your cleaning, and keeps your machine in better condition than any other system I know of. This applies only above the guide boards." Mr. Dilling stated that as to the cleaning of the spinning rails, in one mill they blow off with compressed air and in others they use brushes. They use comber dusters for cleaning between the spindles.

Mr. Tatum asked Mr. Dilling if the overhead cleaning system would pay for itself in labor, and Mr. Dilling replied affirmatively, stating that he knows of mills which, by the use of this style of cleaning, increased the number of sides per spinner by two. He said that he had not done this because of the arrangement of his machines which prevented giving the spinners any more sides. He stated that he started using the system about three years ago and has had full equipment for about two years. He explained, in answer to another question that the power cost increase was negligible, as each cleaner uses only a ⅛- hp. motor.

"If you had it to do over again, would you install it?" asked Mr. Tatum. "Yes," replied Mr. Dilling.

John A. McFalls of Gastonia, asked Mr. Dilling whether the system increased or decreased his number of slubs in the yarn. Mr. Dilling stated that there was a decrease.

Mr. Gibson of Paw Creek, asked as to whether Mr. Dilling had any figures on end breakage before and after using the system, and Mr. Dilling replied that he had none. Mr. Gibson reported that, "Ours ran about 18 per cent more with the cleaner, on 30s yarn." He stated that his cleaners get around about every 3½ minutes.

A. P. Richie of Gastonia, also reported the use of this style of cleaning with excellent results. He stated that it makes the working conditions in the room so much better. He said that he has it over spinning, twisting, and his roving frames with the exception of the slubbers, and that his cleaner gets around every ten minutes on 60s and 70s yarn. He reported no increase in the end breakage.

J. S. Lockman stated that, "I believe that if a man will use the blowing off system and have somebody on it who knows how and lets them blow off often enough, he could keep his machinery cleaner than in any other way and have just as few slubs as by any method I know of—provided he blows off often enough." Mr. Tatum reported that at a previous position in Texas he had utilized this system with very good success.

E. B. Brannan asked how many used the old style clean-up system, that is with the spinners doing their own cleaning, and most of those present stated that this is their practice. A few indicated that they have special hands for cleaning, one man stating that while this does not save any money, it does give the spinners more time and that they now run two

more sides, and produce better work; the spinners get more time to keep up their ends. Asked as to the results, he stated that he has no trouble keeping clean-up hands, because they are paid the same price as the spinner. J. S. Lockman stated that in his experience cleaning up is the hardest job about spinning, and that he had difficulty keeping hands on the clean-up job as they all wanted to be spinners.

J. V. McCombs expressed the opinion that there is nothing to equal the old style clean-up system, using brushing altogether. He is not in favor of using compressed air in any way for cleaning. It developed in connection with this discussion that none of the men present indicated that they used compressed air for cleaning while the machinery is running, waiting until it stopped.

Mr. Tatum asked as to practices in cleaning clearer boards, and it developed that it was common practice to do this twice a day.

In concluding the discussion, Mr. Tatum submitted a question which had been handed in, "What is a mill losing by using spinning rings on filling that are larger than necessary to fill the shuttle?"

"They are losing in the running of their work, and they are having a lot of trouble with travelers wearing out, and that makes their work run worse, and they are losing in their speed because they will have to run at a slower speed," replied Mr. Lockman. Mr. Tatum asked how much excess was practical before rings should be changed, and it seemed the concensus of opinion that not over ¼-inch larger rings than was necessary to fill the shuttle be used. Mr. McCombs told of an experience at a mill which had 2⅛-inch ring on 10s, 12s and 20s, with a front roll speed of 152 r.p.m. on 10s. This was on a filling-wound warp bobbin. He said that this yarn was going to knitters, and that 1-3 of the ends would break at the knitters, and also that the spinning mill was having difficulty with its travelers "looking like a blue steel pistol." He said that they changed to a 1⅞-inch ring, and a traveler which was four numbers heavier, and got just as much yarn on the bobbin, and increased the front roll speed from 152 to 178 r.p.m., increasing the production on 18,000 spindles from 52,000 to 71,000 pounds a yarn a week and eliminated the trouble reported at the knitters of yarn breaking. This concluded the discussion and the meeting was adjourned.

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### The Mill Executive's Position.

(*Continued from page* 2.)

of reducing cost other than increasing production and that, men, is very largely your job.

Among your chief executives we find two schools of thought. With everyone admitting an excess production one group holds to the fundamental idea that night operation caused all the trouble and therefore all night operation should be immediately and permanently abandoned, while a second group recognizes that a fluctuating capacity to meet a fluctuating demand is necessary and therefore night operation, in part, is needed, but only if and when such night pro-

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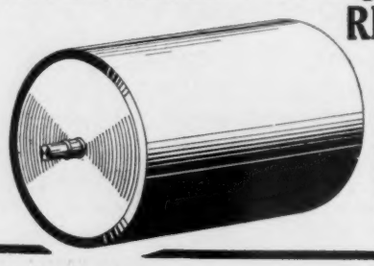

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duction can be sold at a profit. I feel quite sure that both groups have learned that night production for the sole purpose of reducing manufacturing cost is nothing less than industrial suicide. Personally, I believe that final solution will be found along the lines of the latter thought. At present because of so many operators tenaciously hanging on to night organizations, we have a condition that will not permit a full regular day run. This should never be true again if out of the present a same solution of production control shall develop and we have every reason to expect it.

A recent development is the move originating with the Cotton-Textile Institute which proposes, through voluntary action, to eliminate all women and minors under 18 years of age from the mills at night. I consider this a very progressive step and it should have the full support of everyone in the industry immediately. There is no need now for women to work at night to supply any trade requirement, and no one could possibly justify such employment except in an emergency. After mature consideration, it has been decided that we have reached the point in the progress of the industry when this rather bold step should be taken and the officers of the Cotton-Textile Institute hope that every executive will fall in line promptly. There appears to be a wide spread difference of opinion as to the effect this might have on production. Some operators are firm in the belief that they can spin at night without female spinners, while others are equally firm in the belief that ring spinning is a woman's work and will never be successfully handled by a man. With women eliminated we will soon learn something about spinning with men. My opinion is that very few will succeed at it.

Getting back to the part of the plant executive, we must expect in future to see your labor subject to more layoffs. This means that wage scales must be on a level that will permit such lay-offs as becomes necessary to maintain proper production control to balance trade requirements. This is necessary in all other major industries and I see no reason why southern textile mills can be an exception. At the same time low cost per pound must be maintained which means less labor per unit of output. Weekly earnings of labor when employed should be increased where possible. It also appears that you may have some opportunity in training labor in sane use of money earned. If I did not have ginghams to sell, I might suggest as a village slogan, "less gasoline and more ginghams."

Let me say in conclusion that you should not be discouraged. It is an interesting game we are playing and I love it. The greater the problem the more fun we have in solving it. We have yet several years ahead of what I must call a reconstruction period, and let's see who will be in the ranks when they are reformed. I am fighting with you and hope to be in at the finish, but I warn you now that you have to be good to stand up under the present strain and that which is ahead until we get into a new and better day in Southern textile manufacturing.

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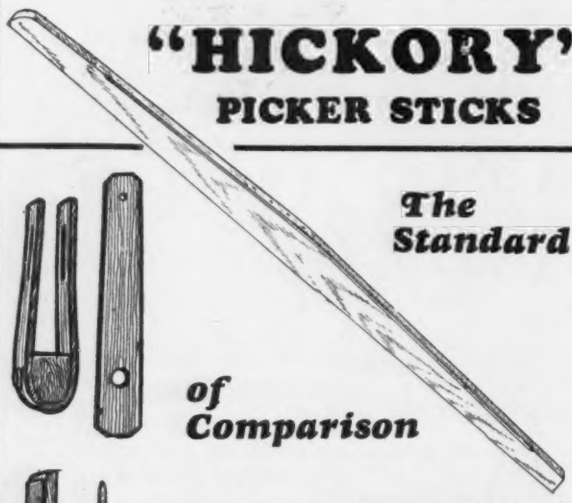


*The Standard of Comparison*

In every line of products there is one that always stands out head and shoulders among the rest. From the way textile men are endorsing "Hickory" Picker Sticks, and the way others are using these sticks as comparison, the fact is indisputable that

*"HICKORY" PICKER STICKS are the best that money can buy. Write for prices.*

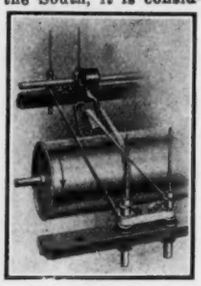
*Also a complete line of wood and spinning frame parts.*

**HICKORY HANDLE & MFG. CO.**
**Conover, N. C.**

## *The Complete Service You've Been Looking For*

At last you can get complete service on the rebuilding of Card Screens, Picker Screens and Spinning Frame Cylinders from a company fully equipped to do the work. As the only company fully equipped to do this type of work in the South, it is considered the fulfillment of a long-felt need by leaders in the textile industry. Write for information.

GASTONIA TEXTILE SHEET METAL WORKS
222 E. Long St. Gastonia, N. C.



*Rebuilding Service*
**PICKER SCREENS**
**CARD SCREENS and**
**SPINNING FRAME CYLINDERS**

## Good Bristles - Good Design

No. 18

Only the best can survive the wear and tear that textile brushes receive. Gastonia Brushes have made a record for enduring service, and a reputation for being perfectly adapted to the job—the result largely of expert selection of bristles and scientific design.

**BRUSH REPAIRING**

In the repairing of rolls only the best of raw stock is used. Gastonia repair work gives longer service. Wooden cores replaced.

**GASTONIA BRUSH CO.**
**Gastonia, N. C.**

## *The Answer to Your Repair Problems*
## on STEEL ROLLS, SPINDLES, FLYERS

No longer need you experience the trouble and high cost of repair work on steel rolls, spindles and flyers.

Fall in line with the hundreds of textile mills who are sending us their work—and profiting thereby.

Modernly equipped. Work returned in shortest possible time. Write for prices.

**GASTONIA ROLLER, FLYER & SPINDLE COMPANY**
**Gastonia, N. C.**

## BRYANT ELECTRIC REPAIR CO., INC.

*Successors to the Repair Department of Michael and Bivens, Inc.*

**GENERATORS, MOTORS AND TRANSFORMERS**
**REWOUND, REPAIRED AND REBUILT**

New and Rebuilt Generators, Motors and Transformers For Sale
Oil Switches, Auto Starters and Compensators Repaired

**EAST FRANKLIN AVENUE GASTONIA, N. C.**

*Telephones: Day 621; Night 1062M; 137*

## Carolina Textile Sheet Metal Co.

**280 N. Church St. Spartanburg, S. C. Phone 2940**

*Sheet Metal Workers Catering to Textile Mills Only*

*Manufacturers of*
Slasher Hoods
Quill Boxes
Conveyor Systems

*Rebuilders of*
Card Screens—all makes
Spinning Room Cylinders
Drying Cans

ALL WORK GUARANTEED
The only plant in the South equipped to rebuild Card Screens and Spinning Room Cylinders

## FERGUSON GEAR CO.

CUT GEARS CHAIN DRIVES
**BEVEL SPUR SPIRAL WORM SPROCKETS**
RAWHIDE BAKELITE AND HARDENED STEEL PINIONS
Member American Gear Manufacturers Association
**GASTONIA, NORTH CAROLINA**

## PATENTS

**PAUL B. EATON**
Registered Patent Attorney, 218 Johnston Building
**CHARLOTTE, NORTH CAROLINA**
A former member of the Examining Corps
United States Patent Office
Also: McLACHLEN BLDG., WASHINGTON, D. C.

## BARKLEY MACHINE WORKS

MANUFACTURERS OF TEXTILE MACHINERY PARTS.
Cut Gears—Cast Tooth Gears
Parts for Kitson Pickers, Nasmith Combers, Whitin Combers. General Textile Repairs.
**GASTONIA, NORTH CAROLINA**

## IDEAL MACHINE CO.

*Repair Headquarters for*
STEEL ROLLS—SPINDLES—FLYERS
*We make a specialty of*
METALLIC DRAWING ROLLS
*and also do*
Overhauling, Moving and Erecting
**BESSEMER CITY, N. C**

Do not forget that cotton manufacturing in these southern states has certain world advantages to both capital and labor, and will be here carrying on when we are under the sod. It is our duty to do our best by it while we temporarily have it under our care. Some day in the ordinary course of events we must pass our responsibilities on to others, so let's keep our feet on the ground, our brains constantly at work and most important of all, keep well in mind these thoughts: Our competitors are our associates and we can never get ahead by destroying others.

## What the Southern Mills are Doing

THE SOUTHERN MILLS CORP., Anniston, Ala., have been reported constructing a $30,000 addition to their plant, in which they will install $25,000 worth of machinery.

Acme Weaving Mills, Inc., Anniston, Ala., have let contract to Ogletree Construction Co., to build a 6500 sq. ft. addition to their plant. The company announces a $75,000 expansion program which includes placement of 60 additional machines for weaving fine tapestries and upholstering.

It has been reported that Gardiner-Warring Co., Inc., Florence, Ala., will build a $4,000 addition.

Lincoln Mills, Huntsville, Ala., have started construction on a building which is to be the same size as their unit No. 2.

The Southern Textile Mfg. Co., will erect a plant for preparation of spining ramie in Miami, Fla. The capacity will be 10 tons weekly. All ramie will be imported from China at first.

Hartwell Mills, Toccoa, Ga., recently purchased complete slasher regulation equipment from Powers Regulator Co.

Exposition Cotton Mills, Atlanta, Ga., have ordered additional opening equipment which includes 6 one-process pickers, 80 deliveries of drawing, 6 slubbers, 7 intermediate roving frames and 3 slashers, all of which was ordered from Saco Lowell Shops. The slashers are equipped with Tycos temperature controls.

Eagle and Phenix Mills, Columbus, Ga., have awarded contract to Williams Lumber Co. for $14,000 for brick and steel addition.

Union-Buffalo Mills, Fairmont, N. C., have purchased Armstrong roll covering equipment to be used to take care of the cork rolls being used in the mills.

Erlanger Cotton Mills Co., Erlanger, N. C., are adding 21 new spinning frames.

American Enka Corp., Asheville, N. C., is now running at full capacity; 2300 employees and 72 spinning machines are in operation. More than 140,000 pounds of rayon is produced weekly.

Falls Mill No. 2, which is a combination of Southern Mfg. Co., and Falls Mfg. Co., Great Falls, N. C., have recently purchased $30,000 worth of new equipment, including 32 cards, 6 speeders, cleaning and picking machinery, four lappers and 12 combers.

Chatham Mfg. Co., Winston Salem, N. C., will start building on two additional stories at a cost of $10,000. It is reported that an additional sum will be expended for new machinery.

The new addition to Diamond Cotton Mills Co., Salisbury, N. C., has been completed. The company announces that this department will have an entire battery of new winders.

It has been reported that 110 additional dobby looms are being installed at the Slater Mfg. Co., Marietta, S. C., and will be in operation within a short time.

Fiske-Carter Construction Co., of Spartanburg, S. C., will build the $40,000 community house for Winnsboro Mills, Winnsboro, S. C. Plans and specifications for the building were prepared by Lockwood Greene Engineers, Inc.


*After all--*

PERFORMANCE IS THE ONLY MEASURE OF QUALITY

If you are already operating roving frames equipped with Stewart Compounds with Whitney Silent Chain Drives you know how they minimize noise, vibration and backlash. Records from the hundreds of roving frames so equipped demonstrate their worth.

Stewart Compounds promote smooth, round roving free from thick and thin places . . . and a minimum of ends down per day. They provide substantial load reduction on the cone belt —and save at least 10% of the power required to drive the frame.

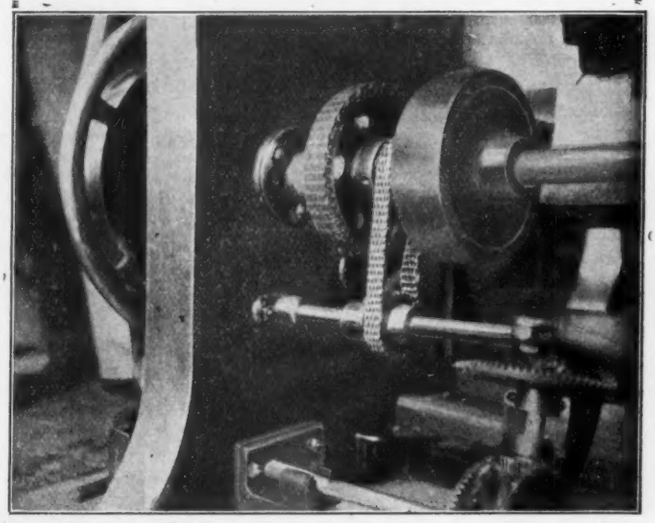
Every stud, sleeve and gear runs in a bath of oil that needs changing only four times per year.

These are some of the reasons why Stewart Compounds are standard equipment on so many roving frames throughout the textile world.

Precision Gear & Machine Co., Inc.
701 E. Franklin Ave.,
Gastonia, N. C.

STEWART COMPOUND

*With* WHITNEY SILENT CHAIN DRIVE



*The booklets or catalogs briefly mentioned below may be obtained by any reader of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.*

**1. Cotton Picking, Carding and Spinning**—Covered by three different catalogs. Picking catalog covers Opening and Picking Machinery; Card Room catalog covers Cards, Combers and Roving Frames; Yarn Machinery catalog covers Spinning, Twisting, Spooling, Quilling and Reeling. By Whitin Machine Works, Whitinsville, Mass.

**2. Pepperell Equipment**—10 page illustrated booklet, showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments. Installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

**4. New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor**—Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

**5. The Bahnson Master Control**—Bulletin No. 301, 5 pages. Illustrated. Automatic device designed to control humidifying equipment so as to maintain a constant relative humidity. By the Bahnson Company, Winston-Salem, N. C.

**6. "Cotton" Weather Vein**, 32 pages; **"Rayon" Weather Vein**, 40 pages; house publication, illustrated. Bulletin 58, 80 pages, illustrated; **Manufactured Weather**—the automatic control of air conditions within buildings. Carrier Engineering Corporation, Newark, N. J.

**8. "Textile Brushes"**—10 page booklet illustrating brushes for cleaning every part of mill. By Gastonia Brush Co., Gastonia, N. C.

**9. "Custom-Built" Motors**—Complete set of bulletins covering various types of electric motors for textile master mechanics and executives. By Louis Allis Company, Milwaukee, Wis.

**10. Leathers, Textile**—Booklet No. 101, 48 pages. Illustrated. Showing BONDARON Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

**11. Whitinsville Rings**—16 page illustrated booklet. Describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

**13-A. Equipping Modern Textile Plants**—Booklet, 35 pages, illustrated. Describes value of Monel Metal equipment in textile plants and presents reports from mill owners and operators on actual experiences; equipment, descriptions, etc. **Also Dyed in the Truth**—Reprints of advertisements of special interest to textile dyers. International Nickel Company, Inc., 67 Wall Street, New York, N. Y.

**14. Emerson Conditioning Ovens**—2 booklets on conditioning of textiles, or determination of the amount of moisture in textiles. Issued by Emerson Apparatus Co., Melrose Highlands, Mass.

**15. Saving Labor, Material and Power in the Textile Industry**—Bulletin No. 133. Illustrated. Controlling, Recording and Indicating Instruments in textile mills. Temperature, Pressure, Humidity, equipment layouts and descriptive applications. The Foxboro Company, Foxboro, Mass.

**17. The Powers System of Thermostatic Control**—"Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

**18. Popular Industrial Chemistry**—162-page handbook for dyers, chemists, finishers, purchasing agents. By Kali Manufacturing Company, Philadelphia, Pa.

**19. Quaker City Chemical Co.**—48-page booklet containing useful information, tables, formulae, on dyeing, bleaching and finishing all textiles. Issued by above company, 2736 North Broad St., Philadelphia, Pa.

**20. Bleaching, Dyeing, Finishing and Printing Textile Goods**—70-page booklet containing interesting information on faults and methods in finishing goods, useful tables and definitions. By Bosson & Lane, Atlantic, Mass.

**21. Warp Sizing and Composition of Cotton**—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

**22. Tragasol and Its Uses**—Booklet, 60 pages, constituents and properties—Dissolving and preparation—sizing and dressing of yarns—cloth finishing—miscellaneous. By John P. Marston Co., 247 Atlantic Ave., Boston, Mass.

**23. Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum**—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

**24. Wyandotte in the Textile Mill**—90-page booklet with information on bleaching, dyeing all textiles, including hosiery.—J. B. Ford Co., Wyandotte, Mich.

**25. Textile Specialties and Woodworking**—16-page illustrated booklet describing wood top rolls, pin boards, loom beams, warper beams, etc. By Wm. McLeod, Inc., Fall River, Mass.

**26. The Guide Post**—18-page booklet showing porcelain guides, rollers, eyes used by textile mills.—By Page-Madden Co., 277 Ralph Ave., Brooklyn, N. Y.

**27. The Seven Factors of Belting Economy**—Booklet, 112 pages, illustrated, containing authoritative information on the economical layout, care and operation of belt drives. Chas. A. Schieren Company, 33 Ferry Street, New York, N. Y.

**28. Akron Belting**—Practical rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

**30. Lubrication of Textile Machinery**—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

**31. Aluminum Paint—The Coat of Metal Protection**—Booklet, 46 pages. Illustrated. The protecting and light reflecting qualities of Aluminum paint; its advantages to textile industry; where it is used; specifications. By Aluminum Company of America, 2400 Oliver Bldg., Pittsburgh, Pa.

**32. Flooring, Open Steel, Area Gratings and Steps**—Folder, 6 pages. Illustrated. For platforms, walks and stairs; non-slipping. By Kerlow Steel Flooring Company, Jersey City, N. J.

**33. Cast Iron Columns**—18-page booklet on use of cast iron columns in mill construction. By National Cast Iron Pipe Co., Birmingham, Ala.

**34. Ornamental Iron & Wire Work**—64-page booklet showing movable wire partitions for stock rooms, etc. Also other iron and wire installations. Badger Wire & Iron Works, Milwaukee, Wis.

**36. Hosiery Inspection, Seamless and Full Fashioned**—Illustrated folder. Also describes new Leg Examining Machine for full fashioned ladies' stockings. Edward R. Ammon, Reading, Pa.

**38. Sleaziness in Full Fashioned Knitting**—Illustrated survey with samples of fabric showing causes of sleaziness, and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog of Reading full fashioned machine with general information on subject of full fashioned knitting.)

**39. Trend of Sales of Silk, Rayon and Cotton in the Piece Goods Departments**; twenty-four-page booklet; prepared by DuPont Rayon Company in conjunction with National Retail Dry Goods Association. Copy furnished without charge by either of above. DuPont Rayon Co., 2 Park Ave., New York, N. Y.

**40. The New Competition in Color**—20 page illustrated booklet. Discusses future trends in business and their significance, present trend toward fast colors in textile industry and opportunity this trend offers for increased profits is properly utilized. By Franklin Process Co., Providence, R. I.

**41. Budget Control**—40-page booklet showing how each part of business budget should be prepared and principles of its effective operation together with a summary of benefits.—by Ernst & Ernst, accountants, 27 Cedar Street, New York, N. Y. (This company also has available booklets on **Standard Costs, Business Control Through Analysis, The Better Wage, Factors to Consider in Working Out Mergers.**)

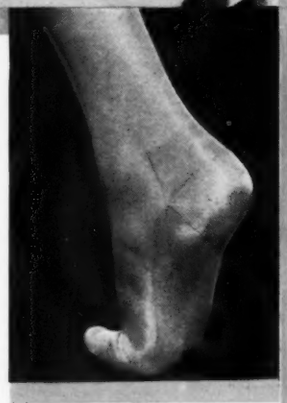
**44. Points of Interest in and Around Atlanta**—36 pages. Illustrated, describing places of scenic and historic interest in Atlanta in particular, and the Southeast in general. Atlanta Biltmore Hotel, West Peachtree, Fifth, Sixth & Cypress Sts., Atlanta, Ga.

# Knitting Section

SMART stockings of sheer beauty... no line or twist of seam... shaped in the knitting on the new Model K machine.

For summer sport and winter formal wear, these new stockings without seams ... snugly fitted at the ankle ... smooth foot and narrowed Gussetoe ... are today's so much more graceful mode.

*No seam to twist or mar the sheer.*



*The "Gussetoe"... the smooth, fitted foot.. with no seam or ridge.*

*Established 1865*

SCOTT & WILLIAMS

*Incorporated*

366 Broadway
New York, N. Y.

# SOPHISTICATION

## *The sophisticated customer looks for Fine Finish . .*

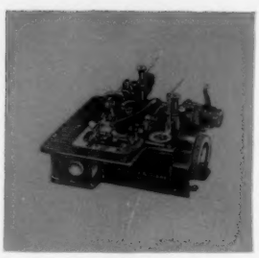
SOPHISTICATION . . . a demand for perfection of detail . . . exquisite seaming and hemming . . . dainty as the dainty underthings themselves.

For glove silk, the *Overlock* . . . a secure seam which lies flat . . . a hem invisible on one side and perfectly finished on the other.

For rayons and the other lovely synthetic fabrics, the famous *Flatlock* . . . a seam utterly flat and soft and pliant.

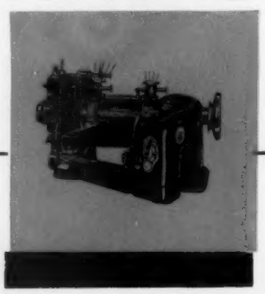
It is the Willcox and Gibbs machines which give the finish for the smart trade of today.

WILLCOX & GIBBS SEWING MACHINE CO.
658 Broadway,
New York, N. Y., U. S. A.



**OVERLOCK**
For glove silk

For Rayon, the
**FLATLOCK**



*Write our Home Office for samples made on these machines or submit your own fabrics for sample purposes.*

**WILLCOX & GIBBS**

*Sole United States and Canadian agents for Cornely and Uniart Embroidery Machines.*

*There are no adequate substitutes for genuine W & G needles.*

# Carolina Yarn Association Holds First Golf Tournament

## *Splendid Attendance; Extensive List of Prizes*

THE CAROLINA YARN ASSOCIATION played host to visiting knitters and weavers, and its own membership, at a golf tournament held at the Sedgefield Inn and Country Club, near Greensboro, N. C., on September 26th and 27th. The main features were two 18-hole golf matches, for a list of handsome prizes, and a dinner on the evening of the 26th; and there were in addition the usual recreational features available for all. This was the first outing to be sponsored by the Carolina association, and the thanks of the more than 100 members and guests were heartily extended to the committees in charge, which were composed of the following:

*Finance and Entertainment*: C. C. (Chick) Harding and Frank Morton. *Trophy*: Fred Lemmond, Henry Blake, Ray W. Weaver, Joe Morton, and Chick Harding. *Handicap*: Dick White, Buck Cheatham, and H. H. Cannon.

*Golf Prizes*: A silver loving cup was the prize for low net score in the two-day golf tournament, this being won by C. E. Beavan, of the Southern Friction Fabrics Co., of Charlotte, N. C. Frank Curran, of Greensboro Full-Fashioned Hosiery Mills, came in with first low gross, receiving a cup, also, as did Chick Harding, of Cotton Products Co., for first low net on Friday's 18 holes. These trophies and an extensive list of other prizes, were made possible through contributions of the association members and their friends. Other prize winners, with a list of the prizes, were:

**R. L. Bothwell**, Elliott Knitting Mills—**Matched Irons.**
**J. T. Corrigan**, Lock-Knit Hosiery Mills—**Gladstone bag.**
**B. Creighton—Windbreaker.**
**L. Corson—Sherbet glasses.**
**F. D. Tillotson**, Indera Mills—**Matched woods.**
**Buck Cheatham**, E. C. Holt & Co.—**Iron clubs.**
**T. H. Vetherlein—Golf bag.**
**N. E. Griffith**, Kaumagraph Co.—**Wrist watch.**
**George Porges**, Kaumagraph Co.—**Silver bowl.**
**Osborne Pfingst**, Greensboro—**Flask.**
**Walter Toy**, Scott & Williams—**Shaker set.**
**Sam Diggle**, Dixie Mercerizing Co.—**Traveling set.**
**H. A. Lineberger**, Aberfoyle Mfg. Co.—**Sweater set.**
**B. D. Sturgis**, Cannon Mills—**Sweater set.**
**J. G. Holt**, Aberfoyle Mfg. Co.—**Kit bag.**
**H. H. Cannon**, Duplan Silk Co.—**Flask.**
**J. R. Morton**, Tubize-Chatillon Corp.—**Grip.**
**Bruce Griffin**, Industrial Rayon Co.—**Sweater.**
**H. N. Cappel**, Tubize-Chatillon Corp.—**Raincoat.**
**William Nebel**, Nebel Knitting Co.—**Golf balls.**
**W. L. O'Brien, Jr.**, Winston-Salem—**Golf bag.**
**W. T. Porter**, Penn Worsted Co.—**Golf balls.**
**W. H. Suttenfield**, Superior Yarn Mills—**Sweater.**
**L. M. Graves—Golf balls.**
**G. G. Sharpe**, Pickett Hos. Mills—**Ash tray.**
**A. A. Murphy**, Industrial Rayon Co.—**Smoking set.**
**Dwight Williams—Cigar box.**
**E. B. Bryan**, Tubize-Chatillon Corp.—**Wood clubs.**

Photographs of some of the joyful foursomes at the Sedgefield tournament will be found on page 81.

## Plans for Research Work.

DR. GEORGE W. TAYLOR, of the industrial research department of the University of Pennsylvania, Philadelphia, who has been a contributor to the hosiery news columns of COTTON and whose statistics covering results of some of his research work have attracted much attention and are held to have figured in some of the planning for installation of full-fashioned equipment in the last twelve months, may have unconsciously made himself a central figure in an organization for research mainly, leaving his surveys as a guide to the deficiencies of the full-fashioned industry. Dr. Taylor was projected further into the limelight by his recent participation in efforts to dispose of a mill and labor controversy, and now there is heard some unofficial discussion of having him take an active part in advising those of the full-fashioned hosiery manufacturers who want a dependable source of statistical information.

It was simply by coincidence that an informal conference of full-fashioned mill executives with officials of the University of Pennsylvania department for industrial research was called just when manufacturers appeared to be at sea over the probable outcome of the Armstrong efforts at organization of an Exchange. The conference was had at the Manufacturers' Club in Philadelphia on October 21 and was necessarily of a semi-private character. As explained by Dr. Joseph H. Willits, director of industrial research at the University, the object of the conference was to "appraise the research work already disposed of and obtain the views of the hosiery manufacturers." Thus, it appears, there is the possibility of results from the conference which may go far toward supplementing the work of the Department of Commerce in reporting each month production and marketing statistics as compiled from the reports of mills representing perhaps 70 per cent of the production accounted for in the last preceding industrial census.

It becomes apparent that manufacturers of full-fashioned hosiery are interested, as they have not been since the post-war slump, in a solution of their problems. The situation which flashed upon the industry this year, it is emphasized by manufacturers, is without precedent, and it may take some time to arrive at methods for averting a repetition. A central research body such as appears an indicated possibility, and sectional associations to solve the problems common to their respective communities, are being mentioned as a probable stepping stone to a powerful organization equipped to deal with every phase of existing conditions and those which may arise in the full-fashioned hosiery industry.

# *An ocean liner responds to the slightest turn of the wheel*

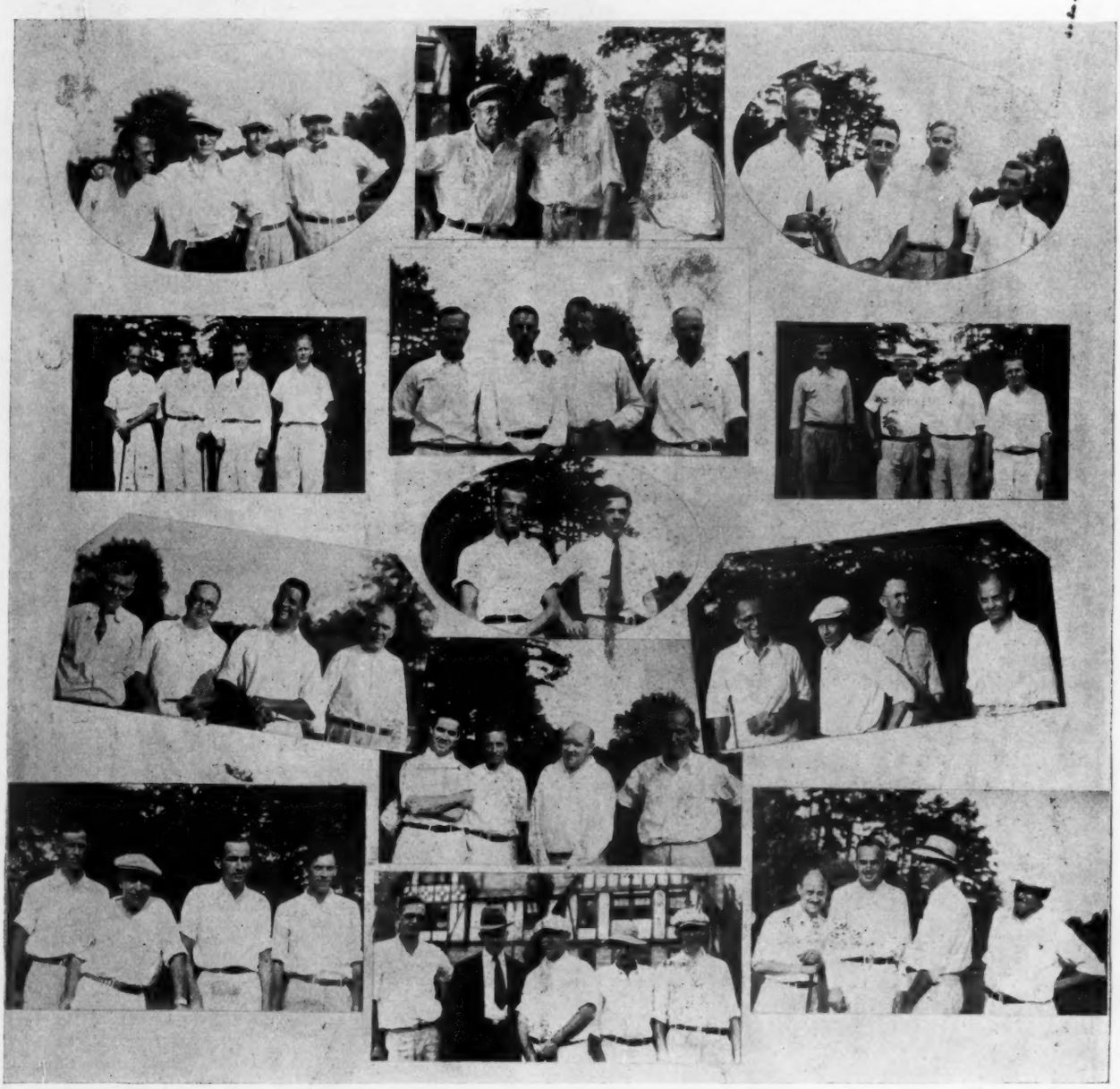
Why? Because the modern steering mechanism has been properly designed and geared. Power replaces brawn.

The slow motion mechanism on the Wildman Full-Fashioned Hosiery Machine, too, has been designed to do away with unnecessary strong arm methods. It can be operated by a mere touch of the hand. A child could operate it.

Write for further information.

WILDMAN MFG. CO., *Full-Fashioned Division,* Norristown, Pa.

# *Some of the Jolly Foursomes Participating in the First Carolina Yarn Golf Tournament*



Top row, across, from left to right: First foursome, W. T. Porter, of Penn Worsted Mills; W. A. Underwood, of Cetwick Hosiery Mills, Asheboro, N. C.; W. H. Suttenfield; and D. F. Wallace, of Statesville. The threesome in the center is composed of Mr. Shoaf, Mr. Carmichael, and H. W. Anderson, president of the Fidelity Machine Co. The next foursome includes Sam Diggle, of Dixie Mercerizing Co.; Osborne Pfingst, of Greensboro Full-Fashioned Hosiery Mills; H. H. Cannon, of Duplan Silk Corp.; and George Graves, of Duplan.

On the second row, by foursomes: B. D. Sturgis, of Cannon Mills; Bruce Griffin, of Industrial Rayon Corp.; Mr. Graves; and Mr. Corson, of Mock, Judson, Voehringer Co. Next, Dudley Bryan; H. N. Cappel, of Tubize-Chatillon Corp.; Dick White, of Aberfoyle Mfg. Co.; and Buck Cheatham, of E. C. Holt & Co.; Burlington. Then, John Griffith, of Kaumagraph Co.;R. L. Bothwell, of Elliott Knitting Mills; C. C. Harding, of Cotton Products Co.; and Richard Remmy, of Mock, Judson, Voehringer Co.

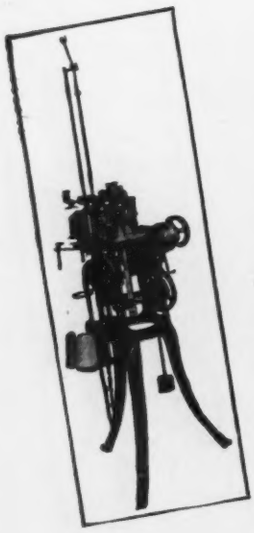
The twosome in the oval is composed of J. B. Johnston, of Aberfoyle Mfg. Co., and George Lewis, of Adams-Millis Corp.

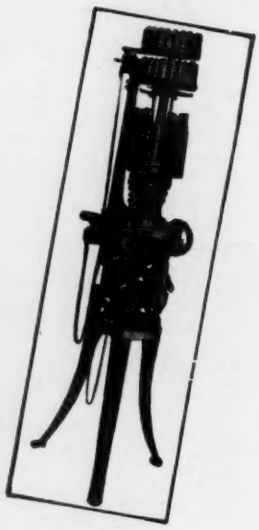
On the next row, the first foursome is: J. E. Millis, of Adams-Millis Corp.; E. F. James, and R. C. Anderson, of Carolina Dyeing & Winding Co.; and J. V. Garrett, of Adams-Millis Corp. Next are Joe Morton, of Tubize-Chatillon Corp.; C. G. Burton, of Lynchburg Hosiery Mills; J. T. Corrigan, of Lock-Knit Hosiery Mills; and Henry Lineberger, of Aberfoyle Mfg. Co. The next foursome is W. C. Meichardt, of Torrington Co.; J. G. Thacker, of Torrington Co.; I. J. Griffith, of Vance Knitting Co.; and Henry Blake, of Torrington Co.

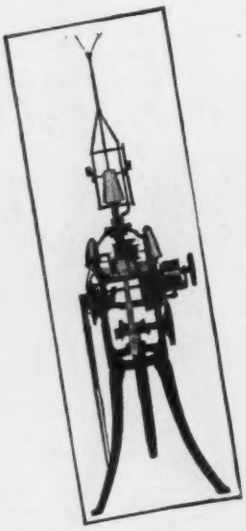
The bottom row, left to right: F. D. Tillotson, Indera Mills; Mr. Keiger; C. E. Beavan, Southern Friction Fabrics Co.; and Bill Stickney, of William Whitman Co. Fred Hallenbeck, of Scott & Williams; Beale J. Faucette, of Scott & Williams; W. J. Berry, Ruth Hosiery Mills; Mr. Venning, and Ed Hutchison, of American Yarn & Processing Co. Mr. Kramer; J. H. McEwen, McEwen Knitting Mills; B. V. May, May Hosiery Mills; and George Sharp, of High Point.

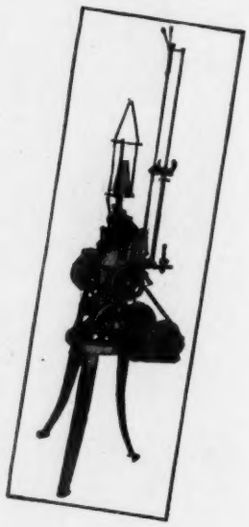
# ALL TRUE-RIB

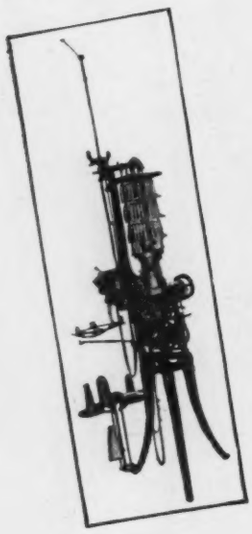
(Patented or patent pending)

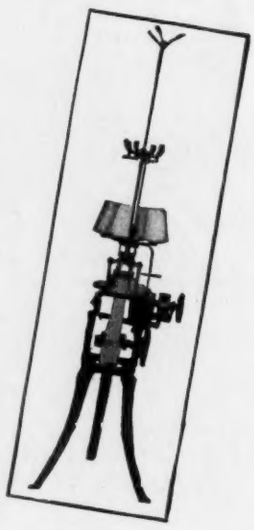


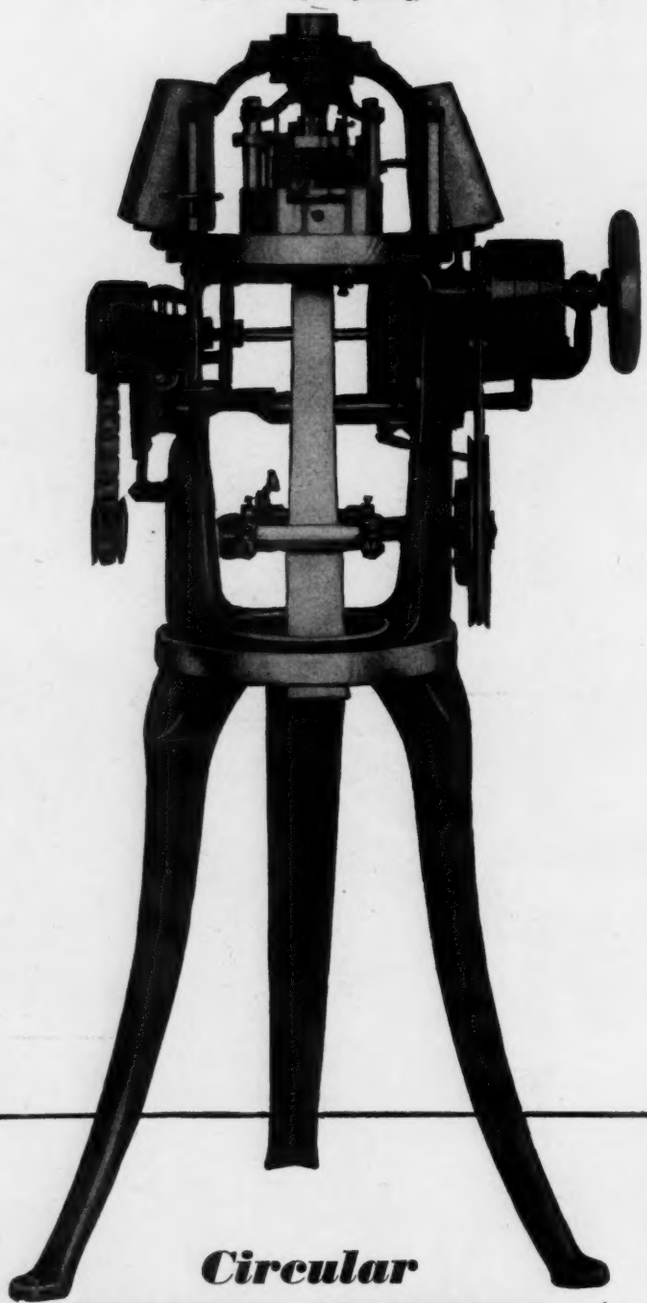












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## Annual Bob Smith Golf Tourney Held in Chattanooga, Tenn.

THE SEVENTH annual Bob Smith golf tournament was held at the Chattanooga Golf and Country Club on Friday and Saturday, October 9th and 10th. The trophy was presented by the late Robert Smith, of Smith-Drum Co., for whom the tournament was named, seven years ago, and it has never been won but one time by any one man. It must be won three times by one person for permanent possession. T. H. McKinney, of the Standard-Coosa-Thatcher Co., was the winner of the trophy this year, and in addition to the trophy, which he holds for one year, he received a beautiful silver vase presented by Mr. Smith's widow. The previous winners of the Bob Smith Trophy are: Bob Davis, Joe Zens, Frank Miller, Guy Henley, John Kane and Henry Bryan. Only members of the Chattanooga Textile Association are eligible for the trophy.

The winner of the first prize this year was Charles Hall. The prize was a silver pitcher presented by Walter L. Toy, of Scott & Williams, Inc. The other prizes, with the winners and donors, are listed below:

| WINNER | PRIZE | DONOR |
|---|---|---|
| Dave Blevins | Cocktail set | Hotel Patten |
| Ben Dabbs | Flower bowl | Paramount Textile Mch. Co. |
| Nelson White | Humidor | Atlas Paper Box Co. |
| R. P. Shapard, Jr. | Wrist watch | Southern Yarn Co. |
| Wilbur Lawson | Silver vase | Dupont Rayon Co. |
| John Croisnaik | Electric clock | Central Franklin Process Co. |
| Bill Dupre | Bon bon dish | Charles Paulus |
| George West | Golf bag | Kaumagraph Co. |
| George Porges | Silver sherbets | Tubize-Chatillon Corp. |
| Walter Wellman | Cocktail shaker | Torrington Co. |
| Nelson Smith | Desk set | Quaker City Chem. Co. |
| Frank Cater | Golf bag | Ciba Company |

# A History *of* Hosiery Inspection

**By Edward R. Ammon**

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**PART TEN**

THIS is the tenth of a series of articles by Edward R. Ammon. The first article appeared in the August, 1929, number, the second in the September issue, the third in November, 1929, issue, the fourth in January, 1930, the Fifth in February, 1930, the sixth in March, 1930, the seventh in April, 1930, the eighth in May, 1930, and the ninth in August, 1930. Subsequent installments will appear in later issues.—The Editor.

FULL-FASHIONED hosiery manufacturers have always endured much misery from the disease of blind narrowing stitches. The fear of letting them get out of their mill is practically eliminated when the modern expanding type of inspection machine is used.

This is a big step in eliminating claims and returns, and it gives positive and definite relief from this prolific source of trouble. The evil effects were particularly disastrous because the runner would start at the calf narrowing stitches and extend up to the wel. In most instances this completely disfigured the stocking.

In many mills these defects are found only a day after the legs have been made. This has enabled manufacturers to pounce on them so quickly that they are no longer dreaded.

Like with many other blessings, most mills, after conquering the blind narrowing stitch disease, promptly proceed to forget that it ever existed, and the nightmare and fear of returns from this source becomes a memory.

Promptly and positively catching this class of defects shortly after a machine starts making them, allows the trouble to be overcome at its source when only a few defective legs have been made. Then the actual loss is so small as to be negligible.

A few years ago such a happy condition was only hoped for. Today a rapidly increasing number of mills have eliminated this torment and give no further thought to it.

Another important improvement that has been perfected in the inspecting machine is a patented circular shape of form. This allows the operator to draw on a stocking so that every stitch is spread out without actual stretch being put on any one.

This has the effect of showing any holes that may exist in the plain single fabric. They are caused in various ways, one of which is the result of toppers laying the bars down too hard on chiffon fabric and cutting a thread.

To detect such a defect without causing it to run has been a difficult problem.

Ordinary home made forms are designed wide enough to put some stretch on the fabric. When the operator draws a stocking on the form, she cannot help but put stretch on the fabric. Sometimes the hole is on the side of the form that is turned away from the operator as the stocking is pulled on. The result is a runner from which the operator cannot protect herself.

If the form was narrow enough not to stretch the fabric, it was too decidedly inefficient in exposing defects.

Defects of this kind that would turn into runners with the slightest stretch, in some mills were immediately discarded as rags, it being a foregone conclusion that they would not be worth repairing.

With the advantage of expansion, a form with smaller circumference can be used, just sufficient to spread the stitches. When a stocking with a defect in the plain single fabric is pulled on such a form, there is no stretch to the fabric, merely a complete and uniform spreading of all the stitches.

The operator has merely to draw the stocking on the form, and see both sides before stretching any part of the fabric.

After the inspector determines that there are no cuts or open defects in the plain single fabric, she then is at liberty to press the foot pedal. This applies pressure from within by extending the projections which are inside the body of the form.

By this means, stockings which have holes in the single fabric can be prevented from developing runners. Then can then be mended so as to secure the most value out of them.

# Any old iron

## that's costing you money to operate?

"Old iron" is a brutal name for equipment which you regard as the major item of your business but—machinery that was an asset in 1920 may be a liability today. In the last few years obsolete machinery has demonstrated to scores of mills that in the Full-Fashioned Hosiery business it is necessary to choose between modernization and oblivion.

Mills that are still trying to *get along* with equipment that should be scrapped as "old iron" will soon find that profits are possible only with machines whose operating costs are in keeping with the production economies of today.

**TEXTILE MACHINE WORKS, READING, PA.**

*The* "READING"
*Full-Fashioned Knitting Machine*

## *What Do You Do With Your Culls?*

*Old Knitter gives here another one of his philosophical discussions, which we know will be of interest to you, whether you make seamless, or full-fashioned, or underwear; or whether you are in or out of the knitting game.*—THE EDITOR.

DEAR DAD:

I want to find out from you how you handle all your various culls in your finishing department. As you know, when you mate a batch of goods you get firsts, irregulars, seconds, re-dyes, re-board and mends out of it. When you finish mating the firsts you always have some odd stockings of uneven length or variable length heels that will not mate up. If you send these re-boards back to be re-boarded they get separated from the lot and they don't all pair up and you have some more odd stockings. The same thing applies to the seconds and mends and you have other odd lots.

Now what do you do with all these odd lots of stockings? How do you economically dispose of these and at the same time keep your finishing room in order?

If you will answer these questions for me, you certainly will do me a favor and I will greatly appreciate it.

Hoping for an early reply, and with love to all the family, I remain

YOUR SON.

---

DEAR SON:

I have your letter with reference to your finishing problem, and I am not going to attempt to answer your questions for the reason that I have never solved the problem entirely satisfactorily to myself and I have never seen any system that did. So, rather than give you any bad advice, I would prefer having you work out your own system.

To illustrate my point, I will tell you of an experience I have recently had:

In early February of this year I was out in the woods and came across a beautiful dog wood tree. It had almost a perfectly straight body, which is very unusual for a dog wood. The top had been broken out when the tree was quite small and the limbs had formed at this point a very symmetrical tree. Each tiny branch was full of buds and I thought what a beautiful object it would make in full bloom in the spring. I could not resist the temptation of transplanting it to my own front yard. I took a lot of care in digging it up to protect the roots and keep as much of their natural soil on them as possible.

I planted it in my front yard and watched it each day for developments. It seemed to be in perfect condition and I was sure it was going to be a successful planting. Early in April when the other dog wood buds began to burst I watched mine still more anxiously. I noticed my buds were a little delayed in cracking open, but I thought this was only natural due to the transplanting. Finally they began to burst a little and I was happy. However, my happiness was soon changed to disappointment when I noticed the buds began to dry up instead of opening wider. No leaves appeared and the smaller branches began to wither and die. I consulted two or three farmers and a nursery man. They held out no hope for me, but all agreed that it was almost impossible to transplant a dog wood of this size and make it live.

However, the bark was still green and I reasoned that if there were less branches for the roots to support that it might live. So I got out my old saw and cut off all the limbs back to a few inches of the body and painted the ends with white lead and within ten days these stub limbs were putting out tiny branches. This is what I should have done when I planted the tree, but I was too selfish and impatient for blooms and almost lost my tree. So I learned this lesson from experience:

If you want flowers from a transplanted dog wood, don't depend on the buds that are already formed on the old limb. Trim these off and grow new limbs for new buds.

Apply this principle to your job. When you are transplanted to a new job don't depend on your old ideas for a solution of your problem, but originate new ideas that will better meet the needs of your local conditions.

I trust I have not bored you with this tree story and that you may profit by its suggestion.

With every good wish for your success, I remain

Sincerely,

DAD.

*What to do with---*

# Old Full-Fashioned Machinery

LONG CONTINUED USE of full-fashioned hosiery equipment that is obsolete but carried in inventories as a dollar item, having been repeatedly written off, is in large part accountable for this year's unprofitable business of manufacturers and threatens to leave many of the users of very ancient machinery not prepared when the time comes to "replace or get out," is an opinion emphasized by a successful mill head who, notwithstanding his years of experience under all sorts of conditions, admits it is difficult to "make any money on hosiery of modern construction produced under legitimate circumstances."

"Obsolescence and cost finding have been more written and talked about than probably any other subject in the economic aspect of making and selling hosiery," said a manufacturer when asked for his views on the crumpled markets of 1930 and the necessity for closing plants, "and I doubt that I could add to what has been said and repeated, anything that might be illuminating to the manufacturer of average horse sense. But," he interjected, "there is one thing that I have wanted for some time to talk about, and that is the error of overlooking obsolescence.

"I will not go into the technique of the subject, leaving that for the experts, and by way of being practical in the point I want to make, will say that this year we found it expedient to install some modern machinery, longer frames and providing somewhat higher speed. If we had not made proper provision for depreciation we could not have put in these new machines without borrowing or taking a slice from our surplus, for as in most other mills, surplus earnings of the plant have dropped.

"We have some 39-gauge machines that have been running long enough to be scrapped," the manufacturer continued. "Although they became obsolete several years ago, all subsequent inventories have contained the usual items for obsolescence. We charge ourselves with this as we would selling expenses, and our prices must at least cover all such charges. This gives a higher operating cost than if we omitted the obsolescence item, and as we have had to meet the prices of mills that no longer figure anything for obsolescence of old equipment, our profits were smaller, in fact, we had to run the machines 20 hours a day for so reducing overhead that we could compete with manufacturers looking only to the present.

"Having made provision for eventual replacement, we required no additional financing when it came to installing the new modern equipment, so improved that cost of production on these machines is less than on the old ones. This leaves us out, you see," the manufacturer observed, with a degree of enthusiasm.

"Running a plant 20 hours or more per day simply to reduce cost of operating old equipment," the manufacturer pointed out, "is not good for the hosiery business. It is all right to run plants 24 hours a day when necessary for meeting demand, but when demand no longer is pressing, we ought to reduce speed. Use of old machines, certainly not so fast as late models, leads to overtime work, to bring overhead down, and if their obsolescence is not taken care of in inventories ,the product of such equipment usually is sold for inadequate prices. This may cause better informed and more enterprising manufacturers to reduce their prices, and then the hosiery from the old machines often is marked still lower. The manufacturers bear the cost of giving retailers higher profits. It's plain sailing for them unitl plant renewal becomes an absolute necessity. Then those who charged up nothing to obsolescence laid aside nothing for replacement—face a real proposition."

The manufacturer, who says he would be willing to help pay a Moses to lead the hosiery people out of their dilemma, believes the full-fashioned industry would be vastly improved, from every angle, if all obsolete equipment were replaced with the down to date. That, he feels, would remove the tendency to carry old equipment as a dollar item and, in sequence, cause a general return to adding a charge of for obsolescence as an item in cost, and work toward more uniform prices.

"It does not pay to sell old machines intending to invest the return in new equipment," the mill man maintains, "as they still would be producing, in other mills, in competition with the output of modern fine gauge machinery. Most every owner of a manufacturing plant," he concludes, "carries fire insurance, and can immediately provide a new plant if fire destroys the old one. He does this although he has no expectation of fire damage and believes there will be none. He is certain that every year of operation takes one year off of the life of a machine, but, likely as not, he has no insurance—he neglected to charge off something for depreciation. Some day the old machine will be worn out and just as nonproductive as if it had been destroyed by fire.

"In times such as we have had this year it might be pretty hard to replace that machine if there were no reserve from setting aside a depreciation fund, perhaps represented in profits that would not exist if inventories had carried no obsolescence or depreciation item. This matter of getting right down to rock bottom with cost has been brought home to a lot of mill men this year," the manufacturer thought.

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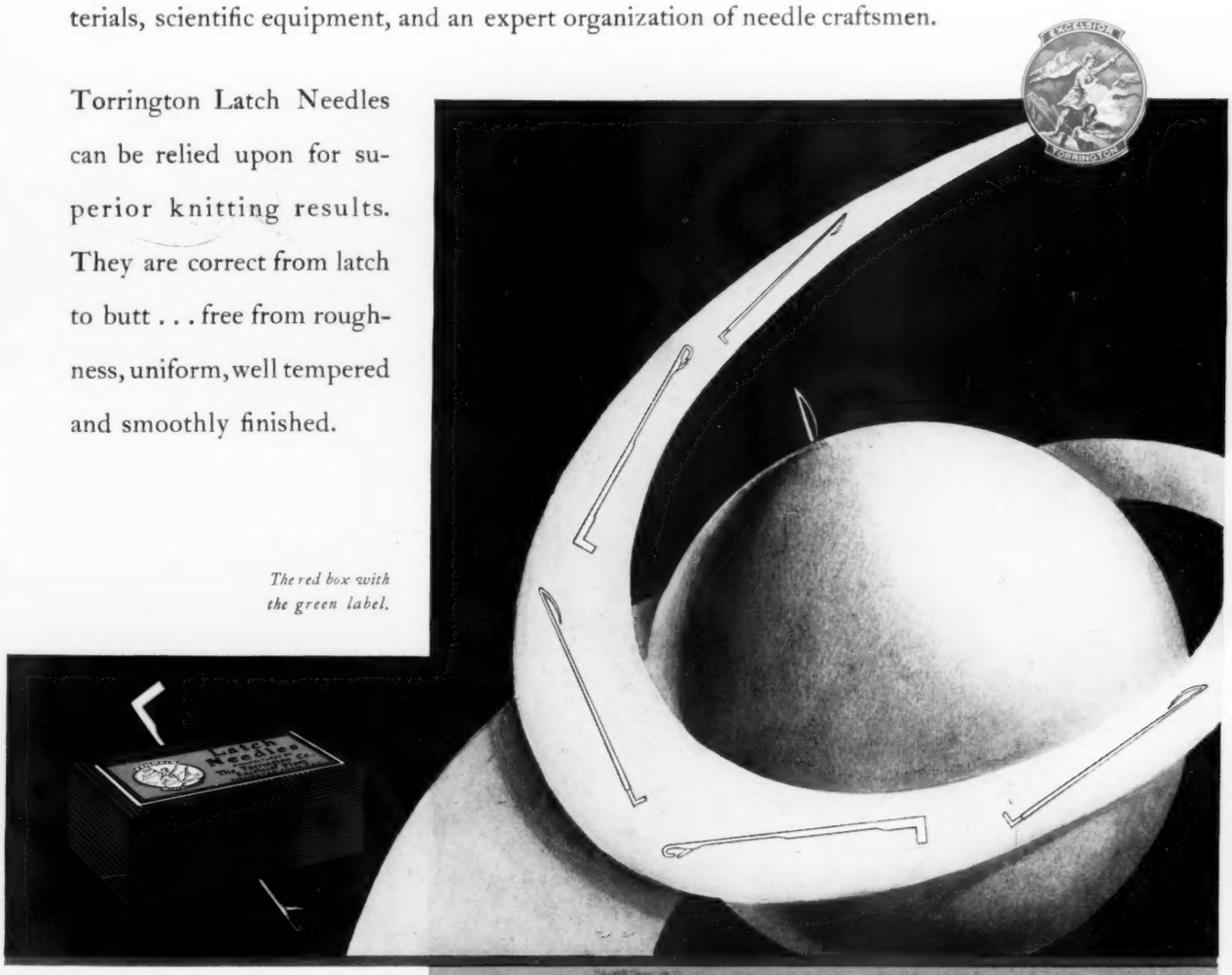
Torrington Latch Needles can be relied upon for superior knitting results. They are correct from latch to butt . . . free from roughness, uniform, well tempered and smoothly finished.




*The red box with the green label.*

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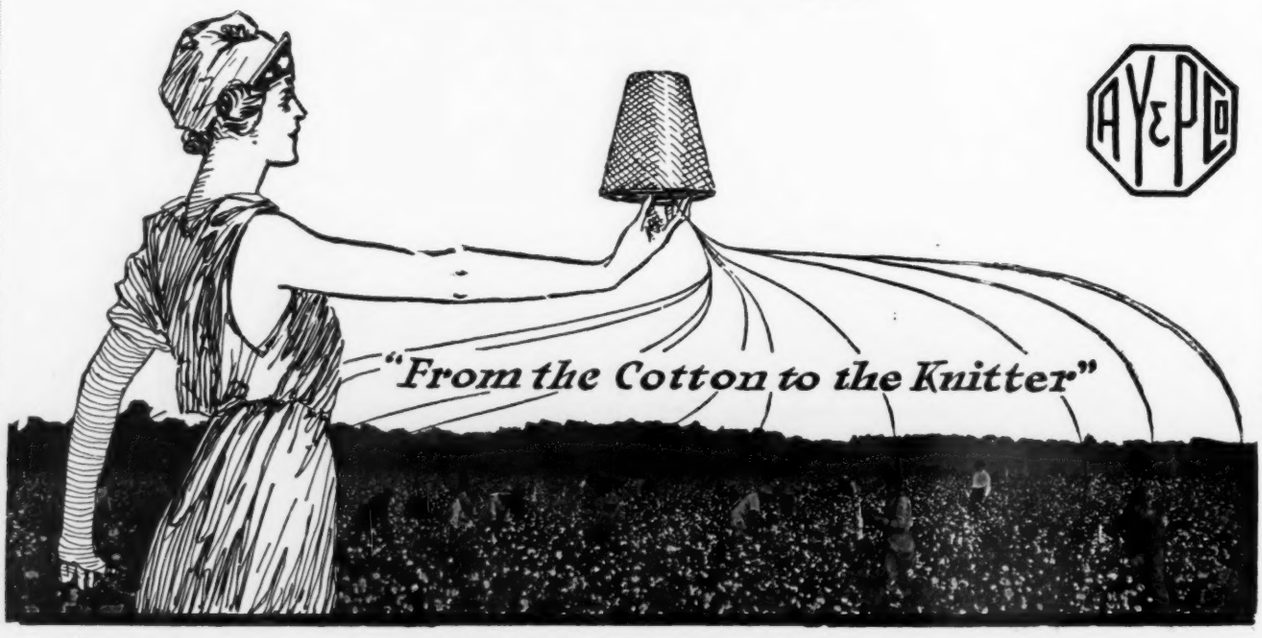


## What is Difference in Grenadine Silk for Full-Fashioned and Seamless?

An interesting reply to this has been secured, and will appear in the next issue. In the meantime, let us hear from you.

EDITOR COTTON:

What is the difference between grenadine silk which is thrown for a full-fashioned machine and that thrown for a seamless machine, having the same twist in the silk? Also, I would like to know how the silk is treated before knitting, for both the full-fashioned and the seamless machines. Do silk throwsters make a difference in throwing any kind of silk for a full-fashioned machine from the methods used for a seamless machine, and if so, what?

CONTRIBUTOR NO. 4869.

## Methods of Collecting Empty Cones from Knitting Machines.

This seems to be a problem in both full-fashioned and seamless mills, and your method will be welcome. Tell us of it.

EDITOR COTTON:

When I first read the question asked by "CONTRIBUTOR NO. 4843" in a recent issue of COTTON concerning a method for collecting empty cones on full-fashioned machines, I was inclined to think that the question was of too simple a nature to merit any discussion in your KNITTING KINKS section. But, on second thought, I realized that the question raised is one worthy of the closest attention on the part of any hosiery mill, whether full-fashioned or seamless.

I would think that the best method of collecting empty cones and controlling excess waste on account of yarn being left on cones in a small full-fashioned plant would be that of having the cones collected and inspected by the foreman or assistant foreman in the knitting room, or at least inspected by him. The actual labor of collecting these cones in a small mill (a mill of 15 to 30 machines) is a negligible item, and can easily be brought under the personal supervision of the foreman in the room. For larger mills, of 50 machines and up, a full-time man can be brought into use, whose duty may be to open up and inspect all yarn delivered to the knitters, taking up the empty cones and knitters' waste in a systematic way.

The subject most naturally merits some common-sense consideration. A reasonable amount of yarn had best be left on the empty cones. I would say at least one layer of yarn. Even under the best coning, the first layer will sometimes stick to the cone and cause press-offs; or the first rounds of yarn on the cone may be slightly tangled and cause press-offs, and in either case the loss of time and the amount of waste made, even though the press-off may be topped back on, will far exceed the cost of a reasonable amount of waste yarn being allowed on the empty cones.

Knitters should not be allowed to strip waste from cones, and waste bags should be carefully checked to see that no cone strippings are being put in the bag. There is no question about a good knitter knowing a good cone of yarn. If he finds a bad one it should be set aside on the knitting table, inspected by the foreman and proper disposition made of the bad cone. If any waste thread is to be stripped from cones, this should be done by the foreman or the yarn man in charge. I am sure that just a little systematic management applied to the problem along the lines of these suggestions will reduce waste on empty cones to a very satisfactory minimum.

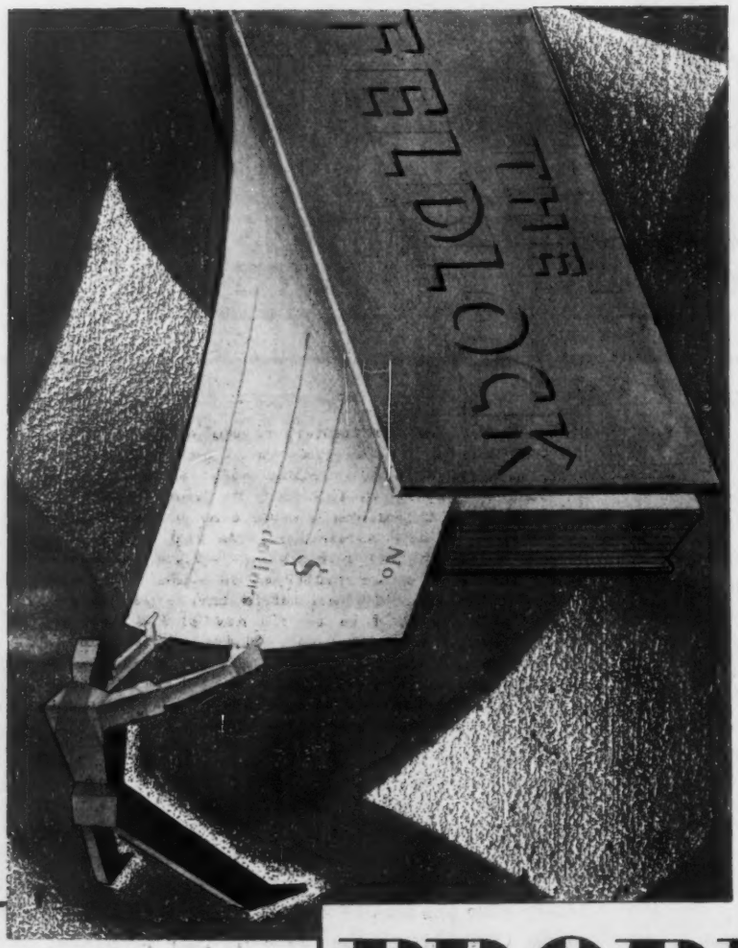
CONTRIBUTOR NO. 4860.

EDITOR COTTON:

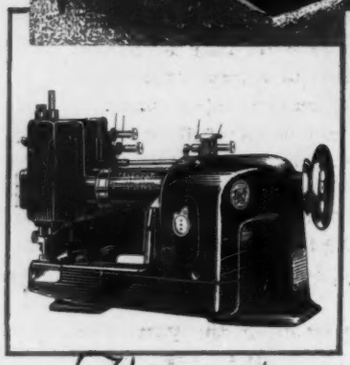
In reply to the recent inquiry of "CONTRIBUTOR NO. 4843," who asked for a method of handling the empty cones from full-fashioned machines, I will say that I have given much thought to this problem over a period of several years, both on full-fashioned and seamless knitting.

My experience has been that there is no economy in requiring knitters to completely empty a cone in knitting. There is enough tangling and cross winding at the beginning of a cone to cause break-downs and press-offs and produce enough waste and loss of time to more than offset any economies effected. The knit-

**We invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All accepted contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.**




# *Are there 'uncashed checks' in your* PRODUCTION



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If you are not realizing the fullest profit from your production you are at a disadvantage with competition. Anything less than the highest possible volume of lapped fell seaming is an "uncashed check."

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*Good tools for good workmen—good needles for good machines—use only genuine W & G Needles.*

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Home Office: 658 Broadway,
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ter knows this and resists the enforcement of such a rule. He evades it by running the cone empty to a point of safety, and removes the rest by skimming it off when the overseer is not looking. This naturally breeds disregard and disrespect for rule observance and affects the morale of the employee.

Our method of handling this problem is to provide a cone stand at the end of each machine and require the knitter to place all the approximately empty cones on this stand, so they may be inspected by the overseer or superintendent at any time. There should be a few yards of thread left on each cone. If the cone is entirely empty it is presumed that the knitter allowed the yarn to run off and make waste, or stripped the yarn from the cone with his fingers. In either case, he is subject to criticism. The right amount of yarn left on the cone is the standard by which the knitter is judged.

We have one man who looks after collecting the empty cones and stripping them. He is instructed not to take up any cones from a knitter with too much waste yarn left on the cone, and report to the overseer those who do not meet the requirements. If the knitter knows that his empty cone stand is being given the proper attention by the overseers, he is not likely to leave too much yarn on them.

The question of reclaiming these short pieces of waste thread on a back winder is to be tested out for its economic value. The reclaimed yarn, because of the excessive number of winder knots, will not make first class full-fashioned goods, and our experience has been that there has been an actual additional loss in trying to re-work the yarn for this purpose. In some instances this reclaimed yarn may be used for re-enforcing heels and toes on cheaper seamless numbers to some advantage.

CONTRIBUTOR NO. 4859.

## Sleaziness and the Dye-house.

**Says the dye-house can do a lot toward preventing or reducing the effect of this evil.**

EDITOR COTTON:

The recent discussions you have published pertaining to sleaziness have certainly been of much interest to me. This is one subject about which it is impossible to say too much. It is an evil that all hosiery mills are obliged to contend with, and the one and only way we will ever conquer it is by free and open discussions of the subject.

We have certainly had our share of trouble with sleaziness in both rayon and silk hosiery. Several times we have knit up rather large lots during one day and placed about half of the lot in the stock-room and dyed the other half that day. We would obtain good results from the lot that was dyed the same day it was knit, but from the other lot, which was allowed to remain in the stock room for about two weeks, we would obtain a large number of sleazy hose. Hence, the blame certainly should not be placed on the knitting department, as many would place it, for this happened enough in our case to prove to us conclusively that there was nothing wrong with the lot knit, provided they were dyed on the same day they were knit.

I do not believe that the dye-house can entirely eliminate sleaziness, but it certainly can go a long ways toward preventing a large portion of it that is so prevalent in most of our mills. Where it is necessary for goods to remain in the stock room for several weeks before being dyed, if the dyehouse will only take special precautions in dealing with this lot I believe that they will find they have contributed in no small way toward preventing a large amount of sleaziness.

With our rayon we have found that we could get rid of quite a bit of sleaziness by sending the goods back and giving them a good thorough re-wetting in salt water. This does not remove the sleaziness entirely but it helps. Until we adopted this method it was necessary for us to cast a large number of hose aside that we are now able to use, and use without taking any chance whatsoever on a flare back from the customer.

We have also found that stripping and re-dyeing will remove a good bit of crinkle from rayon. We found this out by shooting goods back for re-dye where off shades had taken place.

As I said in the beginning, this problem of sleaziness is one evil that is going to cause all of us to scratch our heads a lot before we get rid of it and the more of us that put our heads together, the quicker and more efficiently will we begin to combat this evil. Therefore, I hope that in the near future I will be able to see more discussion of the subject in COTTON.

CONTRIBUTOR NO. 4848.

MS. NO. 8200

## Asks for Explanation.

EDITOR COTTON:

I read with a great deal of interest the article "Sleaziness—and Preparing Silk for Knitting," which was written by "CONTRIBUTOR NO. 4732" in the June 1930 issue. He gave us some very good dope, and this is probably one of the reasons why I want him to tell us more.

As a means of preventing sleaziness, he had the following to offer:

"Be sure that the wedge plate has no nicks in it, due to the sinkers striking it and making an uneven stitch. Make certain that all sections are knitted even in length. Check up on the take-off roll strap. If they are spring rolls, make certain that they are adjusted evenly.

"I would make the stocking knit a little looser in the middle of the sinker heads, because those sinkers are used the hardest. That will help to make more of an even stitch in the stocking, and the take off will be more even.

"This will take some of the looseness along the sides out. The sinkers that are not in the narrowing, due to not being used all of the time, will make a longer loop."

I agree heartily with all of this. However, I would certainly appreciate "CONTRIBUTOR NO. 4732" giving us his method for making the stocking knit a little looser in the middle of the sinker heads.

CONTRIBUTOR NO. 4830.

## What Causes "Diamond" or Distorted Stitches?

EDITOR COTTON:

We would like to have some opinions as to the causes of distorted or "diamond" stitches in the samples of knitted fabric we are sending, which have areas of distorted loops in them which spoil the even appearance. Can you please tell us what causes this loop distortion and how it can be eliminated?

The fabric was made on a 45-gauge machine at 42 courses per inch. The silk is five-thread, Grenadine, conditioned by immersing in an emulsion and keeping in a damp room 24 hours. It runs over an emulsion roller before going to the needles.

To correct this distortion we have tried various adjustments of needles and knocking-over bit heights; different take-up roller tensions; and different silk conditionings, but none of these was successful.

Will you please advise us what else might cause this "diamond stitch" and what steps should be taken to eliminate it?

CONTRIBUTOR No. 4872.

## Preventing "Bust Holes" on Full-Fashioned.

RECENTLY a subscriber submitted an inquiry as to the causes of "bust holes" in silk on 39-gauge full-fashioned machines. This was submitted to a correspondent who has replied as follows:

"With reference to 'bust holes,' I believe your inquirer refers to holes that appear out of the plain part of the leg away from the narrowing or seams where the holes usually occur. These can be usually attributed to a little burr or a rough spot on a needle, sinker, or knocking-over bit, which cuts the thread only partially and then the weakened thread gives away under stress in boarding.

"The remedy is to number the stocking on each head of the machine where the defect is coming from, with a chalk mark. Foot, seam and loop the stocking, then put it under extra tension or stress on an inspecting board and try to make the weak stitch break and show up the hole. Then count from the edge of the seam over to the hole and thereby locate the position where the hole is made on any given head. Polish all parts at this point with a polishing brush."

## Further Comments on Loading Up in First Narrowing.

EDITOR COTTON:

I recently noted where "D. C. (N. C.)" stated he is having trouble on his full-fashioned machines with loading up on the first narrowing. He said he had tried various things in an effort to overcome this trouble, but had been unsuccessful and would appreciate any suggestions for removing this difficulty.

I am of the opinion that one of two things, or maybe both, might be causing him this trouble. First, there is a chance that his knitters are turning the edges of the welts too soon. Here I am speaking of turning the edges of the welts in order to prevent oil spots, or any other spots likely to be incurred from the rod that is passed through the welt, from showing. That is, the edges are turned in such a way that the soiled places caused by the rod will appear on the inside of the seam and not on the outside. I know in our mill some of our knitters turn these welts too soon, thus placing too much tension on the yarn and this has a tendency to cause loading up on the first narrowing.

I also know that in some cases we have had this trouble caused by the knitters having too much tension on the take-up roller in the very beginning.

I believe that if "D. C. (N. C.)" will check up on these two points he will find some of his knitters are committing one of the two errors.

CONTRIBUTOR No. 4842.

## What Causes Bad Sizing?

**We expect some interesting discussion on this, and you are invited to give your experience.**

EDITOR COTTON:

We would like to get the ideas and experiences of some mill men as to the possible causes of bad sizing in rayon and Celanese constructed half-hose? What are the remedies? We would be especially interested in having the causes of this, in connection with the winding, discussed, together with remedies; as well as anything which may be done on the knitting machine to reduce this trouble.

CONTRIBUTOR No. 4815.

## Causes of Bent Latches.

EDITOR COTTON:

I notice the question of "CONTRIBUTOR No. 4847," in a recent issue, with regard to trouble he was having with bent latches on his H H sinker reverse machine, on men's fancy half-hose. He said, "The machine goes out of the welt into the rib and pulls the last 20 of the long needles and the first 20 of the short ones. The needles are pulled out against the throat plate on the right-hand side. The result is that we have some bent latches and some hooks pulled off."

I am inclined to believe that this is caused by the dial not being down to the knitting position quickly enough. It also may be caused by the rib knitting cam not being correctly timed so that it rests on top of the short butt dial needles, and as the long butt dial needles are passing the rib knitting cam, the cam is driven down against the dial. The same thing, of course, occurs when the rib knitting cam is being withdrawn at the completion of the welt, entering of the rib and finishing of the rib.

If the needles are breaking off the hooks, on the throat plate on the right-hand side, it is an indication that the throat plate is too sharp on the upper portion and should be beveled off slightly. It should also be beveled off on the upper right-hand corner. Most of these machines, when they are shipped, have a throat plate ground in this manner.

My opinion is that the latches being bent are bent at another point and not at the point of the throat plate. Therefore, I would suggest looking at the raising cam just to the left of the dropper post. There

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is a two-step cam at this point that drives the needles above the tuck point past the latch ring, which is slightly hollowed out. If the needles are not raising correctly at this point, it will cause bending of latches sooner than anything else.

CONTRIBUTOR No. 4861.

## Answers to Question on "Hairy" Needles.

EDITOR COTTON:

In the July, 1930, issue, "CONTRIBUTOR No. 4718" said: "We are having considerable trouble with "hairy" needles in our 70-gauge, 280-needle, 3½-inch machines. They are the Model K. We would welcome suggestions that would assist us in overcoming this trouble. Various methods have been tried, such as lubricating the yarn, direct oiling of latches, etc., but without any great success. This, our greatest cause of needle replacement, is still with us."

I don't believe I have ever heard of the term "hairy" needle before, but from his description I believe our contributor is speaking of needles that cause a fuzzy or hairy streak in the hose. We have run into this difficulty quite often, and in the majority of cases I have felt that it was due to the gum in the silk causing the latches of the needles to stiffen. Any time the latches fail to function properly, fuzzy yarn is going to be the result. When the needles become so coated with this gum I have found that about the only remedy is new needles.

I have been wondering if anyone has found any method of combatting, or rather preventing, this deposit of gum, that causes so much trouble in the knitting process. I would certainly like to see some discussion of this subject in COTTON.

CONTRIBUTOR No. 4833.

EDITOR COTTON:

This is in reply to "CONTRIBUTOR No. 4718" who stated in the July issue that he is having trouble with "hairy" needles on his 70-gauge, 280 needle, 3½-inch Model K machines. I am taking it for granted that in referring to "hairy" needles he is speaking of needles that cause fuzzy streaks in the hose.

Here in our mill we have often found that on our Model K machines every now and then the bits will work into the cylinder needles, roughing them up, and thus causing fuzzy yarn. We have found this to be rather common. We have also found in a number of instances that the hole in the latch will wear larger and the rivet will remain tight and that this will put fuzzy streaks in the hose. A third cause of fuzzy streaks that we have found has been the rivet coming loose, which causes the latch to fail to work properly.

CONTRIBUTOR No. 4834.

EDITOR COTTON:

In an effort to be of some aid to "CONTRIBUTOR No. 4718," who stated in the July issue that he is having quite a bit of trouble with "hairy" needles on his 70-gauge, 280 needle, 3½-inch machines, which are Model K machines, I am sending in the following suggestions:

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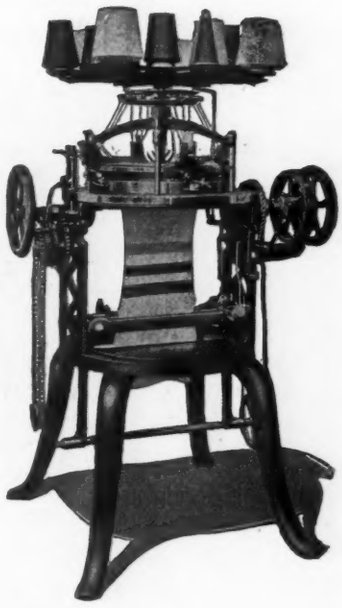

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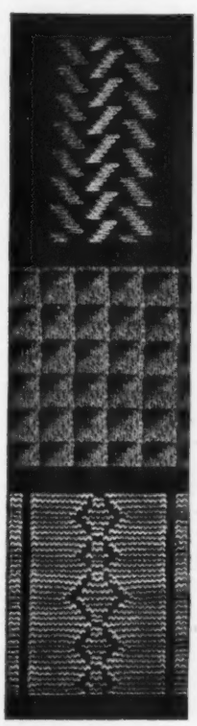

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**Philadelphia, Pa.**

"Hairy" needles, as referred to by our contributor, but which I shall refer to as needles that cause hairy or fuzzy streaks in the hose, may be due, in running rayon, to worn stitch cams pinching the yarn. We have had a considerable amount of this fuzzy yarn show up in our work, and in a large number of cases by making a close examination of the machine in an effort to determine the cause of the evil we found that the machine contained worn stitch cams.

We have also found that in a few instances we had fuzzy yarn made due to running the yarn in the wrong finger.

It might be well for "CONTRIBUTOR No. 4718" to check over these points, which have enabled us to eliminate a fair portion of our fuzzy streaks.

CONTRIBUTOR No. 4835.

## Keeping Track of Seconds and Waste.

EDITOR COTTON:

I know that it is a problem in every hosiery mill to keep a record of the goods handled and to have adequate and yet simple reports for keeping track of the goods. We have been using, for some time, a system that is proving to work out very satisfactorily, and I am sending, with this letter, samples of the tags and report blanks which we use.

To begin with, when we send a lot from the stock room to the dyehouse, we put four dye lot tags (Fig. 1) on the lot. It will be noted in the reproduction of these tags that one tag is used for each size.

This tag stays with the lot and is put in the mated stock racks with the lot.

When the mater has finished mating a given size of the lot, she makes out a mater's report, as shown in Fig. 2. It will be noticed that three different maters mated this particular lot, No. 408, and four different boarders boarded this lot.

At the end of the day, each mater turns in her reports to the accountants, who make out the daily report, a sample section of which is shown in Fig. 3. Each lot containing four sizes to be summarized and transferred to the daily report. This report is all figured out and laid on my desk each day. You will see that it gives me a pretty complete picture of just how each different style is running. Separate sections, similar to the one shown in Fig. 3, are used for each style on the machines.

Referring back to Fig. 3, please note that the 1.28 per cent mends on the report is added to the seconds before the percentage of seconds is figured. This is done because the mends are always an unknown quantity as to grades, but as a rule, more than 50 per cent of them, after they are mended, will go into seconds. Therefore, we play safe by adding them all in the seconds, so as to make out the daily report and not have

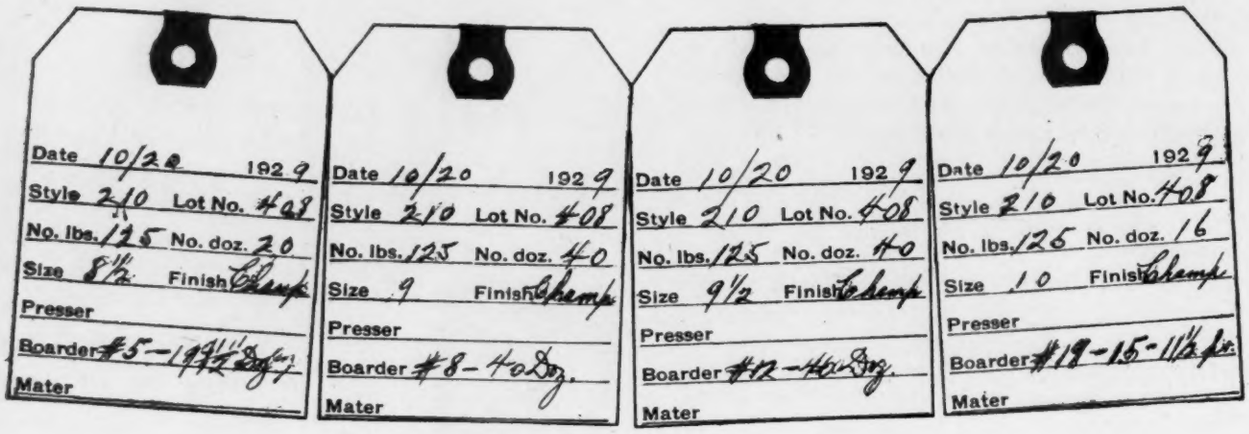


FIG 1

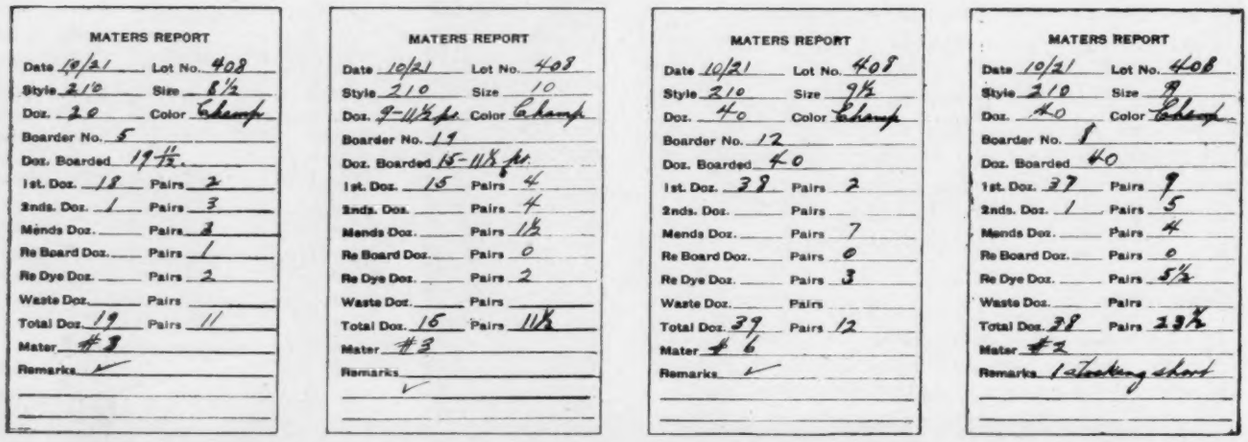


FIG. 2

# 14 COLORS
# 14 STEPS

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## MACHINE

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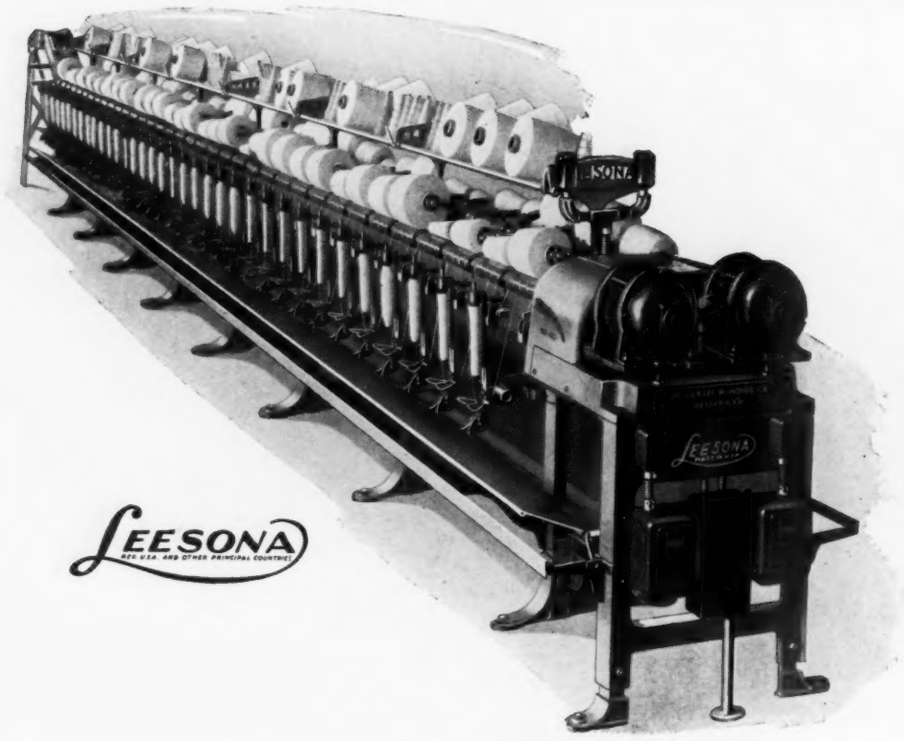


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**UNIVERSAL WINDERS**

**DAILY REPORT** Date 10/21 1929

| Style | Lot No. | Doz. | D. Boarded | | D. Mated | | 1St. | | 2nds. | | Mends | | Re Board | | Re Dye | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 210 | 408 | 116 | 115 | 10½ | 115 | 10 | 109 | 5 | 4 | | 1 | 3½ | | 1 | 1 | ½ |
| " | 411 | 140 | 134 | 11 | 139 | 11 | 128 | 8 | 8 | 4 | 2 | 4 | | | | 7 |
| " | 414 | 112 | 112 | | 112 | | 105 | 2 | 5 | 1 | 1 | 1 | | 2 | | 6 |
| Total | | | 366 | 21½ | 366 | 21 | 342 | 15 | 17 | 5 | 4 | 8½ | | 3 | 2 | 1½ |
| Per Ct. | | | | | | | | | 6.01 | | 1.28 | | | | .06 | |
| Style | Lot No. | D | D Boarded | | D Mated | | | | | | | | Re Board | | Re Dye | |

FIG 3

**MONTHLY REPORT** Date_____ 192___

| Date | Style | Doz. Mated | | 1st. | | 2nds. | | Mends | | Re Board | | Re Dye | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Doz. | Prs. | Doz. | Prs. | Doz. | Prs. | Doz. | Prs. | Doz. | Prs. |
| 10/21 | 210 | 918 | 4 | 847 | 4 | 45 | | 15 | 6½ | 1 | 4½ | 11 | 1 |
| 22 | | 383 | 7½ | 352 | 3 | 17 | 6½ | 7 | 6 | | 1 | 6 | 8 |
| 23 | | 389 | 4½ | 365 | 7 | 11 | 8 | 6 | 11 | | 0 | 5 | 2½ |
| 24 | | 360 | 11 | 333 | 6 | 13 | 6½ | 5 | 9 | 2 | 2 | 5 | 11½ |
| 25 | | 441 | 3 | 406 | 9 | 14 | 8 | 7 | 6½ | | 4 | 11 | 11½ |
| 26 | | 833 | 2½ | 769 | 8 | 34 | 5 | 15 | 5 | | 5½ | 13 | 3 |
| 28 | | 959 | 3½ | 880 | 10 | 43 | 9 | 15 | 2½ | 1 | 5½ | 18 | ½ |
| 29 | | 404 | 7½ | 375 | 1 | 17 | ½ | 5 | 11½ | | 4 | 6 | 2½ |
| 30 | | 694 | 4 | 642 | 4 | 28 | 9½ | 11 | 6½ | 1 | 7 | 10 | 1 |
| 31 | | 945 | 5 | 872 | 8 | 39 | 6½ | 16 | 5½ | | 5½ | 16 | 3½ |
| Total | | 6330 | 4½ | 5846 | | 265 | 11½ | 107 | 10 | 8 | 3 | 104 | 4 |
| Per Ct. | | | | | | 5.9* | | 1.7 | | .13 | | 1.6 | |

FIG. 4

(*Note—It should be explained that in Fig. 4 herewith, the 5.9 per cent is obtained by dividing the total seconds and mends by the dozens mended.)

to wait until the mends are mended.

If we cared to go into further details, we could keep a record of all of the mends that went back into firsts and give the monthly seconds report credit for this amount, but we do not go to this trouble.

The daily percentages on each style are added each day to the monthly report, which is shown in Fig. 4, and these are averaged up at the end of the month for the monthly average.

As many of the items on the monthly report as desired can be filled out. We usually keep a record of the seconds, mends, and re-dyes.

If there is anything about this explanation which your readers do not understand, I shall be glad to explain it further. We have found this to be a very satisfactory method of reports at our mill, which handles both full-fashioned and seamless work.

Z. T. (N. C.)

## More About Keeping the Cylinder Down.

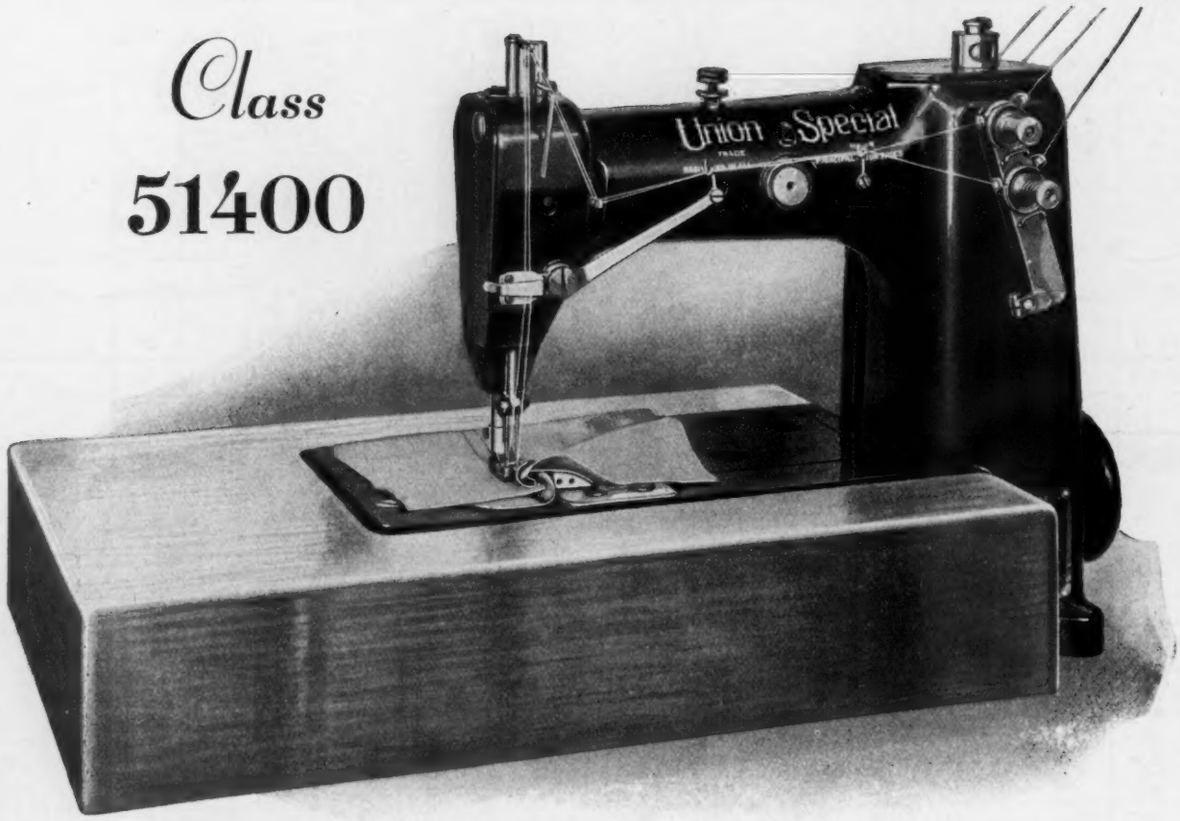
**Finds that rustiness causes trouble, and that proper cleaning will reduce the problem.**

EDITOR COTTON:

I have noticed quite a bit of discussion in your columns here lately in regard to keeping the cylinder down on Model K Scott & Williams machines equipped with the stitch graduating attachment, to gradually tighten the stich from the boot to the ankle. "CONTRIBUTOR No. 4620" pointed out in a past issue that he has difficulty with the cylinders not dropping down to the proper level at the graduating kick, causing the lengths to vary considerably.

We have had this same trouble and have tried numerous means of overcoming the difficulty. As has been mentioned by others previously, we have also attached a large screen door spring to the cylinder tube and this aids in pulling the cylinder down. Then too,

*Class*
**51400**

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in a number of cases we found that we were having our trouble due to the fact that several stitch cams had rather rough edges. We also discovered that a large amount of our trouble was due to the cylinder becoming slightly rusty. However, by removing the cylinders and using a very fine polishing cloth on them, after which we used a good lubricating oil, we found that we had done much to eliminate our trouble.

CONTRIBUTOR NO. 4833.

## Remedying Loose Drum Cams.

EDITOR COTTON:

I notice in a recent issue of "KNITTING KINKS" a question from "CONTRIBUTOR NO. 4617," who said, "We have always had more or less trouble with the drum cams coming loose from the drums of our machines. These cams are the ones that receive the most wear, such as on Scott and Williams machines, set-up cams, transfer cams, shear cams, etc. As the screws in these cams become worn, they are replaced of course, and tightened well, but they gradually wear and become loosened."

Inasmuch as this man asks for suggestions as to "kinks," that might be helpful along this line, I would suggest that he give the screws a 15 minute bath in boiling cyanide, then chill in water while red. If this makes them too hard or too brittle, reduce to ten minutes, or time so as to harden against wear, and still not be brittle. This should relieve his trouble.

If this contributor is not familiar with the use of cyanide, I would caution him to be very careful not to inhale the fumes as it boils, or to get the cyanide into cuts or broken places on the hands, as it is very poisonous.

CONTRIBUTOR NO. 4801.

## Preventing Drop Stitches in the Welt.

**This answers a question on which a number of other opinions have been published. If you disagree with any of them, tell us your ideas.**

EDITOR COTTON:

I read on page 863 of the May issue of COTTON the question of "CONTRIBUTOR NO. 4731" as to drop stitches in the welt on H H machines. He said it seems as if the latch opener doesn't work.

May I reply to this, by saying that we had this same trouble until we stopped the extra two courses of cotton in the set-up. If this man will insert the plaiting yarn in the very back finger, at the time giving more lead on the yarn, it will stay on the needles better, and make a smoother and better set up.

As to the drop stitches when the welt is hemmed down, we have that same trouble when our saw tooth sinkers get worn and burred, and when that is not the case, it will be well to remove the cam from the drum that allows the thrust bar to fall, pulling the central finger cam back. If that cam becomes worn into notches and steps, it will not put the sinkers in action at the proper time, causing the trouble mentioned. Also, the dial being too high or too low will allow the saw sinkers to unhook the stitches at this point.

R. G. (GA.)

## Advocates Keeping Double Check on Needles.

EDITOR COTTON:

Here lately I have read several articles pertaining to keeping check on needles. They have all been very good and I got a lot of good points from them, but in all of them I have felt that there was one thing lacking. Most of them have emphasized the importance of keeping a check on needles in order to keep the needle cost as low as possible, but very few have advocated a corresponding check on seconds to make sure that the knitters are not using bad needles.

Unless a double check is kept I do not believe a check on needles means much. I believe that in nine cases out of ten where only a check is kept on the needles many bad needles will be used that would not otherwise be used.

I keep a check on the number of needles issued to each fixer, but I in turn keep a close check on the number of seconds made on his section during the course of a week, as well as the machines the seconds were made on. An investigation is made to determine the cause of the excess number of seconds and if the cause was due to the use of bad needles—well, that won't help the fixer any.

If a double check is kept, then I am heartily in favor of keeping close check on the needles. Otherwise, I am not, for needles are cheaper than the production of a large number of seconds.

CONTRIBUTOR NO. 4845.

## Eliminating Cut Threads on Yarn Change.

**Readers with experience on this kind of work are cordially invited to answer this inquiry.**

EDITOR COTTON:

In the September number, "CONTRIBUTOR NO. 4841" reported a difficulty he is having, making men's fancy rayon hose, using 200 denier rayon with 80s/2 mercerized yarn. This was on an H H machine, and he said that he was having trouble with his wrap stitches, in the yarn changes, where he experienced cut threads.

I take it for granted that he is using an 80s/2 mercerized for the wrap stitches. As I understand it, this is not a wrap stitch, but an imitation wrap, and, when changing 80s/2 yarn for the imitation wrap, from one color to another, the ends break.

I would say that the 80s/2 yarn, together with the 200-denier rayon, is a trifle heavy, and if this yarn is to be used, it would be well to make narrower patterns. If the patterns run over a number of needles, the 80s/2 mercerized is drawn alternately back of each needle, which causes it to have a very tight draw and cuts it off. If a lighter yarn were used, I do not believe that the breakage would be as great.

It is also well to run this 80s/2 yarn with as little tension as possible. With a light tension, clearer patterns will be secured, as it will not have a tendency to bury the mercerized yarn into the rayon, but will allow it to lie more on the surface.

CONTRIBUTOR NO. 4862.

# The KNIT GOODS MARKETS

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Several Pennsylvania seamless mills are approaching or going through liquidation. One effect of this is seen in a reasonably fair amount of business for a few others. Within a radius of a few business blocks in a Pennsylvania knitting center are at least three mills, all rather widely known in the trade, that seem likely to pass out as competitors by the end of the year, and one that is operating to near capacity and known to be making money. The latter knits women's seamless of pure thread silk and silk and rayon in combination. The line includes both tram and dull silk, and both plain and black heels.

The company sells to jobbers and large retailers, among whom are a few to still exploit high grade circular knit silk stockings for women. Retail prices for its products are as low as 50 cents a pair for silk, and the management feels, with numbers of mills that have passed on and others on the way to obscurity, that so long as present economic conditions remain, the plant will have more business than ever before. "We are going through a period in which a great many women will wear seamless because it costs them less and wears as long," said an executive. "We hear talk of dull times," he went on, "but they have not hit us very hard. Of course we are having less competition in seamless than if everybody was making as much money as a year or two ago. So, maybe hard times have been in our favor."

## Increased Distribution of Full-Fashioned Hose But Manufacturers Profits Rated Too Thin

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The more encouraging phase of the reports for August is that gains in stocks in mills have been halted. New orders and net shipments still are running behind. That was in August; the situation in October was stronger than in August. There was better all-round demand, a noteworthy call for goods in the gray and a nearer approach to price steadiness, excepting lines presumed to be the product of 39-gauge machines and coarser, and made for price, rather than value. But it continues apparent that curtailment of production might be carried further without danger of a shortage of cheap hosiery and no serious reduction in surplus of the higher grades.

With a decline of two-thirds in production of seamless—silk and silk-rayon—from August last year to the end of August, 1930, as shown in reports of 356 identical mills, it would appear that this group is curtailing to the bone, particularly in the costlier numbers. One result is a more than 30 per cent decrease in the number of dozen pairs in stock in mills, comparing with a year ago, and new orders and net shipments still far below those of a year ago. It is noted that August production of women's cotton hosiery declined approximately 48 per cent comparing with August, 1929, which would make it appear, in view of the falling off in silk and silk-rayon circular knit, that the contention that low prices are a factor in largely increasing use of silk full-fashioned as set forth by a seamless mill head is borne out.

### Business Brisk and Dull By Turns.

Orders have been reaching mills sporadically, so that at times it appeared the markets were definitely in an upward swing, while later there seemed to be a lull. It was the usual course, occasional relapses during the recuperative period.

Jobbers have placed a fair amount of business for the holiday trade, so mills selling to wholesale distributors may be said to be comfortably situated as to orders. While some of the direct-to-retailer mills have found it necessary to speed up production, after a special drive for fall orders, some had a relatively dull session during a part of October, when, it was noted, some rather large lots of special sale goods were being offered by department stores at a radical mark-down. There is promise of large deliveries of branded lines to retailers up to around the middle of December, when, some leading minds in manufacturing and marketing feel, there will be a recession such as was experienced in December last year.

Practically every manufacturer underestimated the significance of the then sudden decline in orders and recession in the prices of certain mills, and continued producing full tilt, in the expectation there would be no difficulty in finding an outlet for capacity produc-

tion. But merchants supplied no details of moment during the spring, and most mills were caught with large stocks. These since have been moved into distribution, to the material advantage of large retailers, who if they did not provide for a very substantial mark-up, had immensely increased gross profits in a swollen outgo of hosiery, due to recessions from regular prices.

### Demand for 42-Gauge; Low Price for 48.

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While 48-gauge appears to be ranking second in demand for popular price silk stockings, it seems apparent production of this gauge would stand sharp curtailment. When dealers are quoted $10.50 to $11 a dozen for all-over dull silk with picot, they conclude that the markets are flooded with fine gauge goods. They appear to be, as relates to 48-gauge, and according to the reports of some manufacturers of 45-gauge, output of that number also is greater than market needs.

### Is 45-Gauge an "In-Between"?

At the moment it appears to some interests that 45- is rated by dealers as an in-between gauge which, in stores displaying 42- and 48-, might be dispensed with, unless possessing some especially strong talking point. Although a record low price for raw silk prevails, which some say should favor production of fine gauge hosiery, it is stated semi-officially that the number of machines of finer than 48-gauge equipment installed this year or to be installed is negligible, and it is stated by one authority that not a 51-gauge or finer has been imported in 1930.

Some leading manufacturers have intimated strongly that should there be a slackening in demand; after dealers have arranged for their holiday stocks they will shut down on production to an extent then indicated necessary by market conditions.

It is expected department stores and specialty shops will, as has been their custom for years, want considerable hosiery for post-holiday special sales. "We will be willing to make sale hosiery," an important mill executive states, "but we will not take a chance with blanket orders. We shall accumulate no stocks this year for special sales next year." It is known to be the intention of a number of manufacturers to adopt this policy.

### Men's 25-Cent Socks Lead in Sales.

While men's fancy half-hose has been subjected to price revisions that would seem to represent the absolute bottom for this year, there is heard among distributors whispers of a possible adjustment, since cotton, raw silk and rayon all are near a prewar level of value. According to manufacturers of some of the better known lines of both plain color and fancy half-hose distributed through jobbers, fancies to retail for 25 cents a pair represent more than 60 per cent of the total distribution; some say 75 per cent. Some very attractive numbers for the 25-cent retail bracket reach dealers, through jobbers, at $2.12½ to $2.25 a dozen. The fact that dealers are paying as much as $2.25 for socks to sell at 25 cents is taken to mean they are well satisfied with their sales of such lines. There would appear no need for mills to reduce their prices. Jobbers clamor for a wider spread in as between themselves and retailers, but they always do, say manufacturers, regardless of their unit per cent of margin.

Novelty half-hose as represented by present popular numbers is coming to be a stronger factor in retarding sales of plain color silk socks. Standard lines of 12-strand silk seamless knit are regarded not properly priced at $4 a dozen to jobbers. Retailers have 50-cent lines that cost them less and are said to be not strong sellers. Some believe that a 12-strand sock to go over the counter profitably at 59 cents would outsell average half dollar grades and give silk half-hose a better standing in the trade.

A mill in Reading quotes $7.50 a dozen for dull silk full-fashioned, a dollar a pair proposition, of course. Dull silk for half-hose would, it is believed, be more attractive in seamless construction than is tram, with the sheen. And as the dull in women's hose is apparently gaining in favor week by week, it would appear good for an appeal to men.

### See Hosiery Exports Diminishing.

Hosiery interests anticipating a slack period commencing possibly in December are watching the effect, on American production, of the higher Canadian tariff duties which became effective in September, and declines generally in exports due to higher rates in other countries and heavy world markets. Exports of American hosiery have been in declining volume for several months, and now that Canada's new custom duties make imports to that country from American mills prohibitive there is, obviously, a feeling that manufacturers are being hit in the foreign markets at a time when wider outlets are needed. Exports of hosiery to Canada in July, the last month for which statistics from the Department of Commerce were available at this writing, aggregated $50,300, of which $38,849 represented cotton, $9,939 silk and $11,512 rayon. Total exports, to all countries, in July were valued at $816,355, comparing with $938,954 for June and $1,094,321 for May, a decline of $277,972 from May to July. The decline in dozens was 89,320, from 279,000 in May.

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## Heavyweight Underwear Mills Firm in Holding for Prices

PRICE CUTTING in men's heavy-weight cotton underwear was halted by a drop in temperature which was promptly followed by jobbers sending belated orders to mills. Besides placing the orders, buyers were writing to manufacturers as to prospects for shipments of goods bought in December, from which it was inferred numbers of wholesalers had planned to make a virtual clean-up of their stocks before providing for fill-in shipments to retailers after inventorying.

For a time it looked as if the underwear market might be disturbed by mills offering goods at cut prices. Snappy weather in October soon set at rest all fear of price competition. Manufacturers came to be almost a unit in resisting the efforts of large buyers to depress prices on slight declines in raw cotton, and it now appears that the market will close on a firmness in heavy-weight underwear that might have been witnessed earlier but for an excess of temperature.

While the heavy-weight situation seems to be shaping up well, there is discouragement in the light weight corner, in the tardiness of jobbers as to their initial advance orders; and it appears there is a movement among buyers to withhold commitments long enough to wear out the patience of manufacturers and thus force declines which they failed to procure in winter lines.

In some particulars it appeared women's medium weight cotton underwear might be gaining some little ground this year, as orders from some distributors had been running somewhat larger than last year. But, it transpires, increased distribution in some sections was offset by decreases in others.

## Sweater Mills Near End of Season With No Stocks for Tardy Buyers

JOBBERS' HESITANCY to stock sweaters, in which they have been influenced by unseasonal weather, has left knitted outerwear mills with less business ahead than even the more pessimistic had looked for. Mills generally were right well supplied with immediate delivery orders in October, but were not getting the usual late eleventh hour business. With open weather continuing a few weeks more, distributors may be able to take care of eventual winter requirements. But in the event of a spell of old fashion sweater weather this side of mid-December, there would be a vacuum which it would be impossible for manufacturers to fill.

So many of the manufacturers of average grade sweaters have been producing for orders only that buyers would have very poor selections from which to choose if they suddenly were sent to market. In October there developed some little price competition, and that helped to unsettle the already upset and sensitive markets.

Sweaters have had a late season, from start to near the finish, and it looks as if bathing suits also will be bought later than usual. Orders for 1931 bathing suits have been and still are scarce, according to manufacturers, except as to a comparatively few mills which are favored with a longtime clientele and have an advantage in low overhead cost. Thus far, quotations have been well adhered to, but it is realized that on any drop in worsted yarns, particularly if accompanied by further declines in cotton, there would be danger of price cutting, although it is regarded doubtful if that would help materially to pry loose the orders which jobbers plan to place in January.

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## Co-operative Possibilities in the Knitting Industry

DULLNESS in the hosiery wholesale markets seem to have been prolific of much ado about a general variety of subjects having to do with matters related to both the production of hosiery and the marketing of the product. In the absence of official information to the contrary, it appeared toward the latter part of October that the project for a Full Fashioned Hosiery Exchange which had been planned by Julian Armstrong, of Chicago, an organizer, and was believed to be well on the way toward a complete and functioning organization, was in extreme danger of being abandoned. The movement had lost some of its staunchest supporters, and methods other than those proposed by Mr. Armstrong appeared to be receiving the serious consideration of manufacturers.

Approximately 100 manufacturers, all located almost exclusively in the North and West, are reported by the organization director as having paid into the pro tem treasury $200 each, in order to be recognized as prospective members of the Exchange and entitled to copies of the bylaws and all literature bearing upon the progress of the organization work, and the aims of the completed organization and the methods by which its work was to be carried on for amelioration of depressing conditions in the hosiery trades.

It was the hope of Mr. Armstrong to start off with at least 100 fully paid in active memberships and a bulging treasury, in order that the Exchange might buy up distress hosiery and feed it out as the markets could absorb it with minimum detriment to manufacturing interests. And further, it was suggested that the Exchange buy up obsolete full fashioned machines and scrap or otherwise remove them from competition with high price equipment of modern construction, the product of which has been having a difficult market by reason of a flood of low price hosiery coming from plants made up largely of machinery of ancient build which has been written off in inventories so often that, it is claimed, producers of price goods feel they do not have to charge off anything more for obsolescence, so far as relates to such equipment, and therefore figure a lower production cost than spick and span mills with machines installed during the last half of the current decade.

Manufacturers who had been enthusiastic over the plans of Mr. Armstrong say they believe that, in projecting a structure that promised to become unwieldy, he tarried so long that interest waned as a result of inertia.

A letter of Benjamin Jacobs, treasurer of the Minisac Mills, Inc., Philadelphia, which was given publicity in several trade publications early in August, helped turn the tide of sentiment against the Exchange movement, and when later John Botts of Harrington & Waring, widely known mill agents and distributors to the wholesale trade, gave his imprimus to the Jacobs missive, there was further defection from the ranks of those hitherto closely allied with Mr. Jacobs. The result of all of which was that final meetings of manufacturers preliminary to completing the organization, which were scheduled to be held in Reading, Philadelphia and New York, were called off.

It transpires that the ardor of some of the enthusiasts showed signs of cooling at previous meetings, in one of which it was stated, in answer to a question of a mill head, that it was proposed to assess members annual dues based upon annual sales. It was revealed that the dues of numbers of mills would run into thousands of dollars annually, and several manufacturers stated they would not disclose the amounts of their sales to any organization or individual. The manner of levying assessments was but one of a number of rocks on which the tentative membership split.

Throughout several weeks of publicity being given to the controversy between supporters of the Exchange idea on one side and the lukewarm and dissenters on the other, Mr. Armstrong remained in the background. This served to encourage the belief the project was about to be abandoned, particularly as nothing of an illuminating character was forthcoming from Ferdinand Thun, president of the Berkshire Knitting Mills, who is chairman of the Armstrong organization committee, and William Meyer, president, Apex Hosiery Co., the secretary of the committee. There lingered the hope, however, that with a large per cent of the 100 payees as a nucleus, Mr. Armstrong might go ahead with organization plans.

That list of around 100 alone, some say, would, if welded into an Exchange membership, be strong enough to bring many others into the fold. But, it had been pointed out, and strongly indicated to some minds, it were a practically impossible task, in present conditions—marketing and economic—to bring many southern manufacturers into the kind of organization which it was intended to launch finally about the beginning of 1931. There were stronger prospects, it was held, for forming a compact organization of those in the southern hosiery centers, particularly since there is functioning the Full Fashioned Hosiery Manufacturers of America, for maintaining contractural relations with the American Federation of Full Fashioned Hosiery Workers, and the Full Fashioned Hosiery Group of the Philadelphia Textile Manufacturers' Association, in addition to the National Association of Hosiery and Underwear Manufacturers, which it is held, had its inception in a southern organization.

Last year there was believed to have been formed the Hosiery Distributors' Corporation, intended to provide protection against deception in labeling, etc. Two or three years ago an attempt to form an organization of full-fashioned hosiery manufacturers patterned somewhat along the lines of the United States Steel Corporation was launched by J. H. Makem, of the Shaughnessy Knitting Co., Boston, at a meeting at the Manufacturers Club in Philadelphia during the annual knitting arts exhibition exposition. Mr. Makem had a large and representative attendance of manufacturers, and there was discussion aplenty, but that seems to have been the last to be heard of that project for setting the full-fashioned hosiery industry right a long time before it ran into the complications which resulted in Mr. Armstrong appearing on the scene with the blue prints of a structure for stabilizing production and putting an end to dumping hosiery into department stores at prices designated by the buyers.

In the event that the Armstrong program be abandoned, it is believed by quite a few mill men that it has paved the way for organization of community groups, for several of which, it is held, there is room in the South, with a sort of information clearing house for all. Obviously, it is pointed out, there would be one such organization in Reading, and Philadelphia, it is presumed by those drawing a picture of sectional groups, would continue to be affiliated with the Textile Manufacturers Association. Other manufacturing centers, it is presumed by advocates of this plan, also would organize and eventually there might be presented practically what Mr. Armstrong had in mind, except that in this instance there would be elimination of much red tape and organization expenses would be reduced to a minimum, comparatively. The possible main drawback to any movement in such a direction would be the several failures of efforts at organizing and operating under the direction of a "czar."

## Among the Knitting Mills

VOLUNTEER KNITTING MILLS, Athens, Ala., have announced that they would purchase 40 houses which were erected by citizens two years ago. These houses were built by business men of the city with guarantee of rent from the mills, the mills having option to purchase the houses at any time.

It is reported that a new hosiery mill, occupying the old Perfection Mill building, Burlington, N. C., will begin operations in a few days. Clifton Elder is the principal stockholder. It is said that 13 full-fashioned machines have already been installed and are now in operation.

Belmont Hosiery Mills, Belmont, N. C., have 10 new H H spiral knitting machines ordered for men's 220 needle hosiery, which, they state, increases the equipment to 50 machines.

It has been announced that the Bismark Hosiery Mills, Carthage, N. C., which recently resumed operations, have added new machinery to enable them to make a finished product.

McPar Hosiery Mills, Marion, N. C., will soon install 25 new Scott-Williams machines, it is reported, which will give work to 15 or 18 more people, and will increase production by 750 dozen per week, bringing total production to 2,350 dozen per week.

Pauline Hosiery Mills, Inc., Little Rock, Ark., according to recent announcement, have decided to move their plant to Evansville, Ind., accepting an offer of the Evansville Chamber of Commerce for additional financial backing for expansion. It is proposed to increase the plant equipment from 25 to 50 machines at the new location.

Pilot Full-Fashioned Hosiery Mill, Valdese, N. C., has just completed an addition to its plant, at a cost of approximately $30,000, to house new throwing machinery. This building of standard mill construction, having two stories, 50x75 ft. The new equipment includes twisters, winders and coners.

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BOSTON, MASS.

HAMILTON, CANADA

LOS ANGELES

MILLS

CHESTER, PA.

BELMONT, N. C.

ABERFOYLE MANUFACTURING COMPANY

*Representatives in All the Principal Countries of the World*

When the machinery has been installed and the enlarged plant begins operations approximately 4,000 lbs. of silk will be used each week. The plant operates 30 knitting machines for the manufacture of full-fashioned hosiery.

The addition to the Elliott Knitting mills, Catawba, N. C., has been completed and is now ready for the installation of machinery. The addition, a one-story structure, was erected by W. A. Setzer, contractors. It is approximately 100 x 40 ft.

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### Report of Durham Discussion.

(*Continued from page* 17.)

is a time in which you should determine when to do it. Your clearer waste comes from the accumulation between the rolls and when that accumulation gets to be so much, your stock begins to take it in and they should be picked. But you should not pick too much, because I feel like we can 'over-pick.'"

Mr. Goodman of Goldsboro, spoke, agreeing that it is possible to over-pick, pointing out that the work should not be disturbed any more than necessary. In picking clearers, he emphasized the importance of picking *all* of the clearer, instead of just the front part.

W. V. Byers told of having changed the shape of his under-clearers so that instead of being triangular, they are flat with a space to allow the waste to be pushed down in them, out of the way. This practically concluded the morning discussion and following a short talk by David Clark, the delegates were guests of the Erwin Cotton Mills Co., at a splendid dinner, where K. P. Lewis, secretary and treasurer of the company, spoke briefly, assuring their visitors of their welcome and speaking a few words of encouragement to them in their association work. Dean Thomas Nelson, of the State Textile School, also spoke.

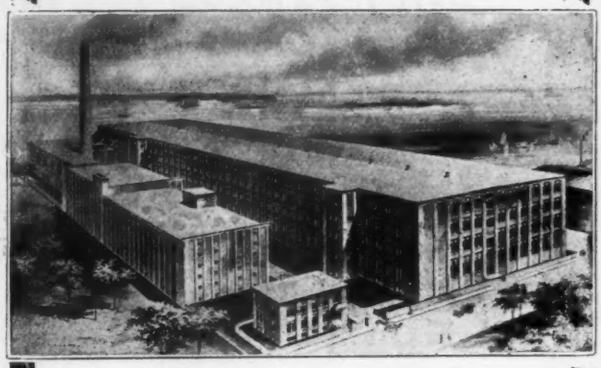
### Spinning Discussion.

AT THE BEGINNING of the afternoon session, an effort was made to establish standard practice on some of the features of card room cleaning discussed during the morning. However, in view of the effect of different local conditions, difference in opinion, etc., it was not deemed wise, inasmuch as there were so many variables entering into the picture.

J. W. Cates, superintendent, Edenton (N. C.) Cotton Mills, was in charge of a short discussion relating to cleaning methods in the spinning department. He first called upon W.A. Stevens, overseer of spinning, Durham Cotton Mfg. Co., who stated that his idea is to have all overhead cleaning done during the noon hour, and to have all lint carefully removed from the frames before starting up again; the tops of the machines, he said, should be wiped off with something that will take up the dust and lint, not fanned off. He declared himself in favor of as frequent cleaning as is necessary.

Mr. Burns reported that they require their spinners to break out all greasy streaks, doublings, singlings, etc., paying ½ cent apiece for them, these being saved and counted by the time-keeper. Mr. Gillam responded to a question by stating that he does not use any flaps or compressed air, employing mops


Quissett Mill
New Bedford, Mass.



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Goodness in yarns must be more than skin deep if the trade is to be satisfied. Quissett realized this fact. That is why they have always kept one of the best staffs of expert yarn men in the country working full time to uphold the quality as well as beauty of Quissett Yarns.

Thus, Quissett goes beneath the surface of beauty to provide their clients with the kinds of yarn that make up into textiles and garments of reputation.

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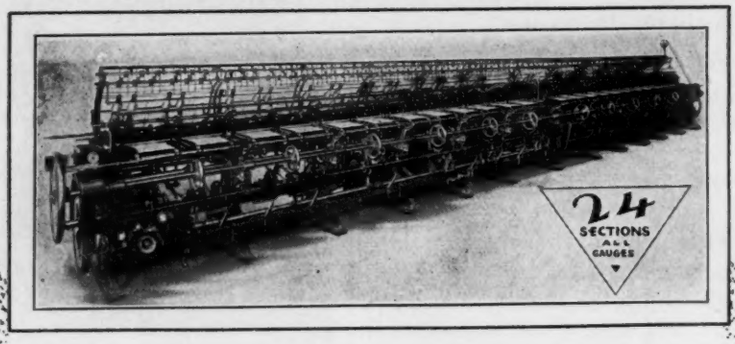


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SMOOTHER, cleaner, trouble-free winding is possible with the Stonington oilless winder. It is equipped with oilless bearings throughout.

In addition, the unit assembly drive, the Atwood traverse finger with fibre locking strip, the sturdy cam construction, the rigid construction throughout, all make for perfect bobbins.

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ATWOOD

In buying Atwood parts from dealers, be sure to get genuine Atwood parts, marked with the Atwood oval trademark.

4724

used of ply yarn and comber dusters.

"We use compressed air," said Mr. Cates, "but I think it is a curse in any mill." He explained that some years ago mills became more "production-minded." and tended to shorten the cleaning methods, by the use of compressed air and other methods. He added that, "I do not think whisk brooms are a good thing, either, but I cannot give any good formula for cleaning rails without using some method of this type."

"The secret of cleaning is to organize it so that it will be a routine method," declared E. M. Holt. "'We have tried to do that. Of course the number of times we clean and the way we clean might be best for us and not best for you, but I am going to give you our system because we think it suits us.

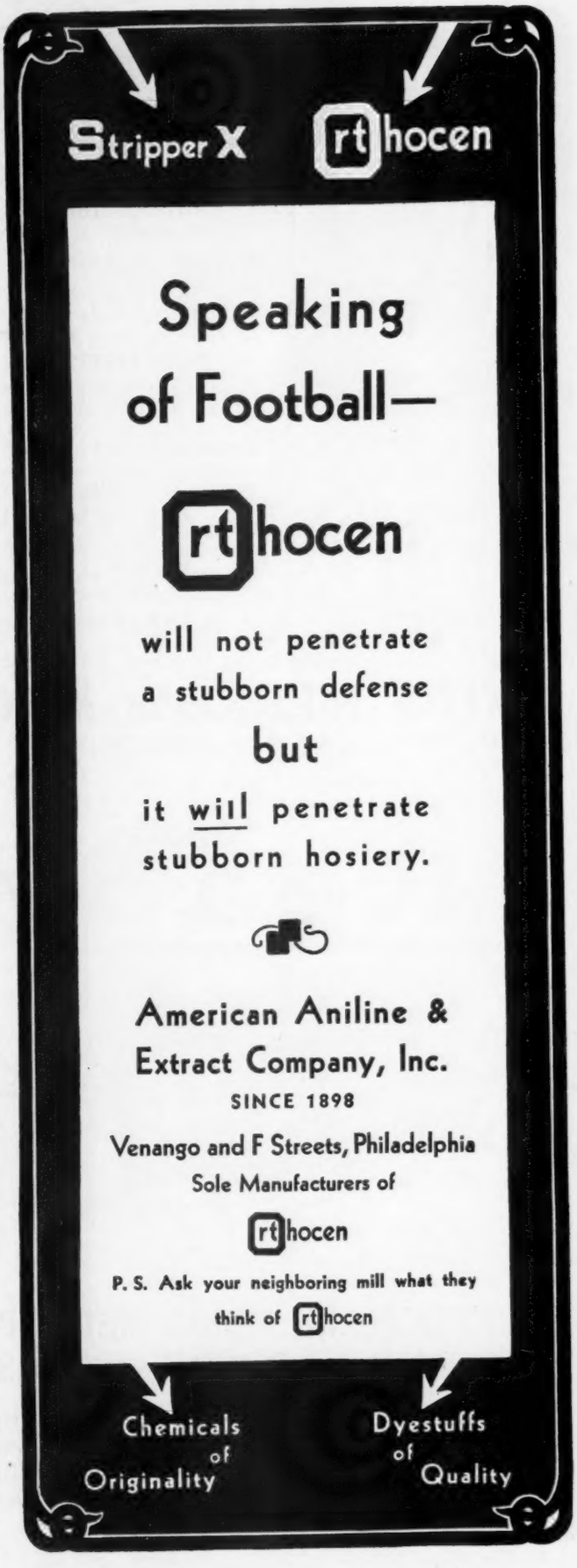
**Holt's Cleaning Schedule.**

"We run out front guides every hour, using a board similar to a guide brush in shape with clearer waste pasted on the bottom except at the outer edge which is beveled back about ⅜-inch because we have found that when it goes to the edge the yarn will lick in the fly. Our spindle rails are wiped off with a brush four times a day. We pick top clearers twice a day. Guide rails are brushed with a comber duster with a downstroke after stopping for doffing, and scavenger rolls are cleaned just after doffing. Back guides are cleaned each day, with a long piece of cloth strung through. The leather rolls are picked once a day.

"Front stands are cleaned once each day with a small wad of waste, and spinners are cautioned to be careful that they do not let the ends lick up any waste. Doffers are required to wipe off heads twice a day and rockers twice a week. In addition to the daily cleaning we have a weekly schedule of the daily points. Monday, back stands and steel rolls; Tuesday, front stands picked; Wednesday, thread boards cleaned underneath and roving rods wiped; Thursday, skewers, creels and spindles cleaned; Friday, rings and roller bars; Saturday, tops of creels are wiped off.

"We hold our section man responsible for all of this cleaning. In cleaning down overhead we clean down at noon time with the frames standing, and the section man is required to be on his section along with the cleaners and he goes along behind the cleaners and picks out all fly and trash before the work is started up. In sweeping we sweep to the edge of the frame and then go from the other side and drag it out. We use no fans around the spinning at all."

After all of the criticism of using compressed air for cleaning, W. V. Byers stated that he still uses it, and has never been shown a better method, considering the fact that he runs 8s colored yarn, and puts through about 100 bales of cotton a day. He explained that he is connected with the same organization as Mr. Holt, who doesn't use compressed air. Mr. Holt pointed out that while his own practice is to wipe off, he did not believe his method would suit under Mr. Byers' conditions, or that Mr. Byers' meth-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will not penetrate a stubborn defense but it will penetrate stubborn hosiery.
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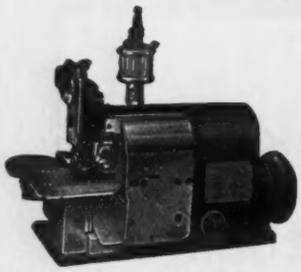
**——200 VARIETIES FOR 200 PURPOSES——**



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**INQUIRE ABOUT NEW MERROW MACHINES**

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For simultaneously trimming and joining ends of cotton, silk or woolen piece goods with a

**FLAT BUTTED SEAM**

Permits goods to pass through finishing machines, uninterrupted, for such operations as Shearing, Calendering, Mercerizing, Bleaching, Dyeing and Printing—with *remarkable saving*—both in labor and fabric.

Butted Seam, natural size, made by STYLE 60 ABB MACHINE on Cotton Goods which have been subsequently processed. The STYLE 60 D3B makes a similar though much wider seam designed for use on sleazy or loosely woven goods to insure holding.

**OTHER RECENT DEVELOPMENTS—FOR THE RAYON TRADE**

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**STYLE 60 JDC**—For two-thread **FLAT SEAMING** on Rayon Underwear.

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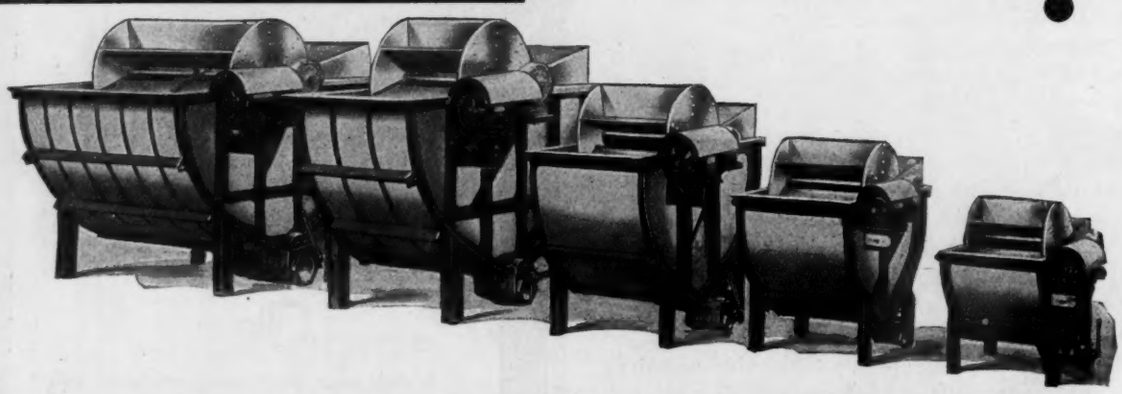

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Hosiery dyers will welcome the corrosion resisting cast iron frames, mono-cast side frames and cast iron angle end frames.

These frames are made extra heavy and rigid to reduce vibration. Motor, belt or chain drive at your option. Capacities 5, 10, 25, 50 and 100 lb. sizes. Other sizes built to order.

*Write today for price and delivery.*

**STRICKLAND PATTERN WORKS**
**Chattanooga, Tennessee**

od could be used in his plant. It was generally agreed that under certain conditions, such as coarse work, around warpers, etc., it is practically necessary to use air in some form for cleaning.

Mr. Byers pointed out, however, that it is risky to use compressed air unless the proper pressure is used and the right size orifice is employed. He said that a hole over 1/8-inch would be too large.

C. S. Tatum commented upon the fact that several speakers had stated that by changing from a heavy oil to a lighter oil, they had corrected some of their troubles, and wondered if, after having become educated to the use of heavier oils, this meant that there is a general tendency back to the lighter viscosities.

### Cleaning Schedule at Selma.

L. O. Creech, overseer of spinning at the Selma Cotton Mills, Selma, N. C., next gave his schedule of cleaning. He stated that they had recently discarded the whisk broom; the doffers wipe the rails with rags. He continued:

Any section man or overseer should see to it that the frames are kept clean and oiled at the proper time, as this goes a long way toward preserving the life of machinery. I think an overseer should train his help so that they can readily see that the cleaner they keep their steel rolls and leather rolls, the less ends they have to piece up.

"We have in our mill 15,276 spindles, running 28s warp and 31s filling, using around 7/8-inch, Low Middling cotton. Our cleaning schedule is as follows:

SPINNERS

Monday:
- Clean steel rollers and leather rollers
- Wipe back guides four times
- Pick top clearers three times
- Brush off sides four times
- Clean roller bars two times

Tuesday:
- Clean leather rolls
- Wipe creels
- Wipe back guides four times
- Brush off sides four times
- Pick top clearers three times
- Clean roving traverse rods
- Brush ring rails
- Clean roller bars two times

Wednesday:
- Clean leather rolls
- Brush off sides four times
- Wipe back guides four times
- Pick top clearers three times
- Clean roller bars two times

Thursday:
- Clean leather rollers and stands
- Brush off sides four times
- Pick top clearers three times
- Wipe back guides four times
- Clean roller bars two times

Friday:
- Clean leather rolls
- Wipe back guides four times
- Brush off sides four times
- Brush ring rails
- Pick top clearers three times
- Wipe out creels
- Clean heads and ends, gears covers, etc.
- Brush spindles and clean behind spindle rails
- Clean spindle cases, bottom
- Clean roller bars two times

(Mr. Creech explained that, since shutting down

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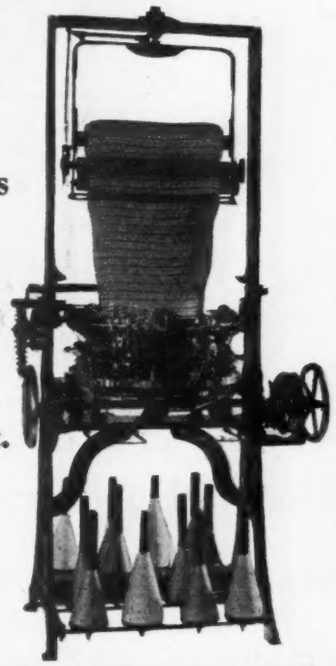
COOPER SPRING NEEDLE
MULTIPLE STRIPING MACHINE
Offers Many Possibilities To Manufacturers of Bathing Suits Sweaters Outerwaer Etc.

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The attractiveness of the box in which your product is packed oftentime influences a sale.
The very appearance of Old Dominion boxes bespeaks of quality, for these are "individualized" boxes, made especially for your requirements, and with your own design on them you have a quality box that commands and gets attention. Our five centrally located plants can give you prompt service on your box requirements—any type or size. Samples and quotations given without obligation.
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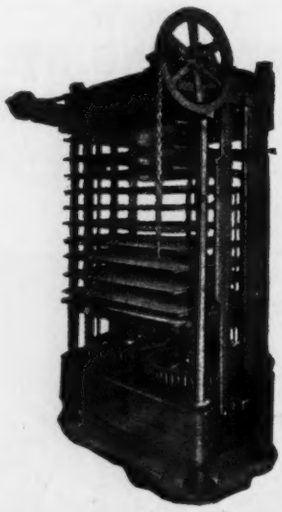

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## Hosiery and Underwear

Write for Catalog and Prices

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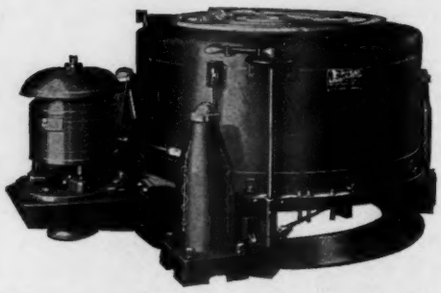

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There's a stocky, long-lived O-T that fits your extracting needs exactly. *With basket side-sheets of monel metal*—an exclusive O-T advantage. Write and have our specialist call with the facts.

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*Specialty Department C*

*Norwood Station* CINCINNATI, OHIO

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COLOR is king—science has given to cotton new and wider adaptability and greater public acceptance through beautiful colorings. And the sun resisting limitations of these colorings is vitally important. Such determinations are routine matter when Fade-Ometer is entrusted with the task of getting this information and safeguarding color quality. Let us tell you how — why — and where Fade-Ometer is serving in solving problems similar to your own.

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Without mental effort
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**EXPANDING INSPECTING MACHINES**

*Learn to Hate Dyed Menders*

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## Weimar Bros.

Phone Connections
Works: 2046-48 Amber Street
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MANUFACTURERS OF

**Cotton Mercerized Tapes, Spool Tapes, Bindings and Narrow Fabrics for Underwear and other Trades.**

on Friday night, it was necessary to combine Saturday's cleaning with Friday's.)

"The foregoing is what our spinners clean up, and we would like to know if anyone has a better method for his spinners. We have tried the so-called 'clean-up-hand' system, but did not adopt it because the clean-up hand could not clean enough sides to save anything. I find our spinners all want to clean their own sides, and really I think it best for, by so doing, they see all the worn rolls and take notice of any little defect that would cause ends to come down." This concluded the discussion.

---

**PARKSPRAY UNIT AIR CONDITIONER.**

The Parkspray unit air conditioner is an efficient and compact device for supplying conditioned air to laboratories, testing rooms, offices and small manufacturing spaces, including conditioning rooms, according to a recent bulletin of Parks-Cramer Co., Fitchburg, Mass. They say it is entirely self-contained and semi-portable. Low pressure water supply and drain connections and an electrical outlet in the lighting circuit into which to plug the extension cord are all that the buyer must supply, unless conditions make it necessary to heat the outgoing air. In that case, connection to heating system is necessary, it is pointed out.

Other advantages claimed for the system are: (1) During much of the summer, the ParkSpray unit air conditioner will cool the air very decidedly, without the use of refrigerating apparatus. (2) Practically all dirt, lint and other foreign matter is washed from the air as it passes through the water spray.

:: :: ::

**NEW PAMPHLET ON RAYON WARP SIZING.**

The "Why" of Successful Rayon Warp Sizing is the title of a pamphlet recently published by Van Vlaanderen Machine Company, Paterson, N. J. The pamphlet tells of the improvements recently made by the company in their rayon warp sizing equipment. These pamphlets will be sent to anyone making request to the aforementioned company.

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**STATEMENT**

of the ownership, management, circulation, etc., required by the act of Congress of August 24, 1912, of COTTON, published monthly at Dalton, Ga., for October 1st, 1930.

State of Georgia, County of Fulton.

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared John C. Cook, who, having been duly sworn according to law, deposes and says that he is the Business Manager of COTTON, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, R. W. Philip, Atlanta, Ga.; Business Manager, John C. Cook, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; W. R. C. Smith, Atlanta, Ga.; W. S. Cushion, Cleveland, Ohio; O. A. Sharpless, Atlanta, Ga.; J. C. Martin, Atlanta, Ga.; H. H. Kelley, Willoughby, Ohio; W. J. Rooke, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; P. D. Hammett, Chicago, Ill.; L. F. Gordon, Atlanta, Ga.; E. W. O'Brien, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appear upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs containing statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stock holders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bonafide owner and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

JOHN C. COOK, Bus. Mgr.

Sworn to and subscribed before me this 1st day of October, 1930.

E. L. PHILPOT, Notary Public.

My commission expires March 5, 1931.

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HARD MAPLE HOSIERY BOARDS

Give you that much desired finish that cannot be obtained from any other than wooden boards.

You get the length, lustre, *feel* that the goods should have.

Our special finish is highly recommended for silk and wooden boards.

We serve the best mills—send a request for list and same will be forthcoming.

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**Yes!** you can make dull finish HOSIERY

exactly like the new crepe and grenadine Hosiery that is taking the country by storm.

**Quaker DULL FINISH**

will do it—quickly, safely, economically. No change of formulas, or methods, no additional handling. Write, wire or telephone for full particulars.

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*(Division of the O. F. Zurn Co.)*
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PHILADELPHIA, PENNA.
North 6th Avenue and Wells Street, Knoxville, Tenn.
Hamilton, Ont., Canada

# The YARN MARKET

**Philadelphia, Pa., October 18th, 1930.**

"ALL WAS QUIET ON THE MARKET FRONT" very adequately sums up activities of the yarn market as depicted in the report of last month. There were a few flurries of trading here and there, but the large majority of buyers appeared to retain their super-cautious attitude.

There seemed to be somewhat of a revival of interest in the form of inquiries during the first week of the present report period. A large percentage of these inquiries, however, if converted into orders would have amounted to only a small amount of business, for it was pointed out that the inquiries ranged in size from 1,000 to 10,000 pounds. Most of the buyers would start out by endeavoring to place orders at prices below market quotations, but there were only a few instances where it was unnecessary for them to hoist their original ante. The published prices for weaving yarns at this time was 23 cents for 20s-2 and 27 to 27½ for 30s-2 ordinary carded warps, and 20½ to 21 cents for 10s frame spun cones.

Many yarn distributors during the next week seemed to be of the opinion that the month of October would witness a material increase so far as sales were concerned. They expected the completion of shipping instructions on long standing contracts to take place during the month. This caused a better feeling generally to exist among the dealers.

Several market interests stated that, from their point of view, the most encouraging feature of the immediate outlook in yarns was that large consumers realized the prices were so close to the bottom that there was little likelihood of consumers covering orders obtained immediately.

The Government forecast during the next week of 14,486,000 bales failed to have any immediate effect on yarn rates. This estimate was considered slightly bearish, for the average guess of the majority of yarn men had been 14,200,000 bales.

It was pointed out by local dealers that most spinners were standing very firm and refusing to make price concessions. It was believed that a contributing factor in bringing about this condition was the fact that many spinners were much more substantially booked than they had been for some time. Many spinners were credited with having turned down bids that would net them no profit. They expressed themselves as being more willing to shut down. There was a feeling prevalent among local yarn men that cotton quotations had reached the bottom and this was conducive of a more satisfactory sentiment.

It was generally conceded that it was probably beyond the possibilities of the situation for a strong rally in cotton to take place, or either for there to be a radical change made in the hand-to-mouth buying policy that had been so predominant in the yarn market during the past several months, but leading market interests seemed of the opinion the merchandising outlook was much brighter than it had been for some time.

During the next week nothing exceptional happened in the way of a demand being created for yarns. However, prices remained fairly stable and the usual number of hand-to-mouth sales were registered. Cooler fall weather had a tendency to stimulate retail sales, and it was hoped by local yarn men that this would be reflected by an increased amount of activity in their field.

Philadelphia prices on October 13th follow:

**Single Skeins.**

| | | | |
|---|---|---|---|
| 4s to 8s | 19 | 10s | 19½ |
| 12s | 20 | 14s | 20½ |
| 16s | 21 | 20s | 21½ |
| 24s | 24 | 26s | 24½ |
| 30s | 26 | | |

**Single Warps.**

| | | | |
|---|---|---|---|
| 10s | 19½ @20 | 12s | 20 @20½ |
| 14s | 20½ @21 | 16s | 21 @21½ |
| 20s | 21½ @22 | 26s | 25 |
| 30s | 26½ | | |

**Two-Ply Warps.**

| | | | |
|---|---|---|---|
| 10s | 20½ | 12s | 21 |
| 14s | 21½ | 16s | 22 |
| 20s | 22 @22½ | 24s | 24½ |
| 26s | 25½ | 30s | 27 |
| 40s | 36 | | |

**Two-Ply Skeins.**

| | | | |
|---|---|---|---|
| 8s | 19½ | 10s | 20 |
| 12s | 20½ | 14s | 21 |
| 16s | 21½ | 20s | 21½ @22 |
| 24s | 24 @24½ | 26s | 25 @25½ |
| 30s | 26½ | 40s | 34 @34½ |

**Frame Spun Carded Yarn on Cones—Cotton Hosiery Yarn.**

| | | | |
|---|---|---|---|
| 8s | 19½ | 10s | 20 |
| 12s | 20 @20½ | 14s | 20½ @21 |
| 16s | 21 | 18s | 21½ |
| 20s | 21½ @22 | 22s | 22½ |
| 24s | 23½ | 26s | 24½ |
| 30s | 26½ | 40s | 35 |
| 30s dbl. carded | 30 @30½ | | |

**Carpet Yarns.**

| | |
|---|---|
| 8s and 9s white warp twist | 19 |
| 8s tinged tubes | 17½ |
| 8s part waste | 16 |

**Mercerized Yarns.**

| Single | | Two-Ply | |
|---|---|---|---|
| 30s | 65 | 20s | 51 |
| 36s | 67 | 26s | 52½ |
| 40s | 70 | 30s | 54 |
| 45s | 73 | 36s | 57 |
| 50s | 76 | 40s | 60 |
| 60s | 85 | 50s | 64 |
| 70s | 1.00 | 60s | 72 |
| 80s | 1.12 | 70s | 84 |
| 90s | 1.50 | 80s | 96 |
| 100s | 1.80 | 90s | 1.31 |
| | | 100s | 1.61 |

**Mule Spun.**

| Carded Yarn on Cones | | Combed Peeler Yarn on Cones | |
|---|---|---|---|
| 10s | 25½ | 10s | 34 |
| 12s | 26 | 12s | 35 |
| 14s | 26½ | 14s | 36 |
| 16s | 27 | 16s | 37 |
| 18s | 27½ | 18s | 38 |
| 20s | 28 | 20s | 40 |
| 24s | 30½ | 22s | 41 |
| 26s | 31½ | 26s | 42 |
| 30s | 32½ | 28s | 43 |
| 40s | 40 | 30s | 44 |
| | | 36s | 47 |
| | | 38s | 49 |
| | | 40s | 50 |